

# SEARCH REQUEST FORM

12

Requestor's Name: Ex. Guy Tucker Serial Number: 03/646,519  
Date: 7-7-97 Phone: 703 349-3271 Art Unit: 3319

## Search Topic:

Please write a detailed statement of search topic. Describe specifically as possible the subject matter to be searched. Define any terms that may have a special meaning. Give examples or relevant citations, authors, keywords, etc., if known. For sequences, please attach a copy of the sequence. You may include a copy of the broadest and/or most relevant claim(s).

Method of cleaning bone to produce bone grafts.  
Method involves sonicating the bone.

## Key terms:

Ultrasound  
Sonicate

## Inventor Search

Lloyd Wolfenbarger, Jr.

Bone  
Cadaver or donor

Bone graft (allograft)

Bone transplantation

Bone Marrow Removal

Bacteria, fungus, viral elimination by Ultrasound

## STAFF USE ONLY

Date completed: 7-7-97

### Search Site

### Vendor:

Terminal time: 170

☒ STIC

☐ IG

Elapsed time:           

☐ CM-1

☐ STN

CPU time:           

☐ Pre-S

☐ Dialog

Total time: 170

### Type of Search

☐ APS

Number of Searches:           

☐ N.A. Sequence

☐ Geninfo

Number of Databases: 1

☐ A.A. Sequence

☐ SDC

☐ Structure

☐ DARC/Questel

☒ Bibliographic

☐ Other

L59 ANSWER 1 OF 3 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD

ACCESSION NUMBER: 96-432860 [43] WPIDS

DOC. NO. NON-CPI: N96-364803

DOC. NO. CPI: C96-135767

TITLE: Cleaning of large bone grafts - by immersing done in soln. contg. solvent for bone marrow and applying vacuum through prepd. opening in intact bone.

DERWENT CLASS: A96 D22 E19 P34

INVENTOR(S): WOLFINBARGER, L

PATENT ASSIGNEE(S): (LIFE-N) LIFENET RES FOUND

COUNTRY COUNT: 1

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 5556379	A	960917	(9643)*		20

## APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 5556379	A	CIP of	US 94-293206 940819
			US 95-395113 950227

PRIORITY APPLN. INFO: US 95-395113 950227; US 94-293206 940819

AN 96-432860 [43] WPIDS

AB US 5556379 A UPAB: 961025

Large bone grafts are cleaned as follows: (a) excess cartilage is removed from at least 1 articulating surface of a large substantially intact bone; (b) an opening through the cortical layer of the bone is prepd. to permit access of a vacuum line to the bone cavity, and the line is attached; (c) the bone is immersed in a soln. (A2) contg. at least 1 solvent for bone marrow; and (d) a vacuum is applied to draw (S1) through the cartilaginous articulating surface and then through the cavity to withdraw solubilised bone marrow.

(S1) pref. comprises endotoxin-free deionised/distilled H<sub>2</sub>O, 1 or more solvents (0.001-2 % esp. 0.01-0.5 % anionic and/or nonionic detergents; esp. polyoxyethylene alcohols, polyethylene glycol, p-isooctylphenylethers, polyoxyethylene nonylphenol, and polyoxyethylene sorbitol esters), and also EtOH (pref. 5-95 % esp. 10-30 % v/v), as well as 1 or more of endotoxin-free deionised/distilled H<sub>2</sub>O and/or EtOH, and 1 or more antibiotics, antiviral agents, H<sub>2</sub>O<sub>2</sub>, permeation enhancers, organic acids, and dil. solns. of strong acids.

ADVANTAGE - The method with min. handling and processing provides large bone graft material which is essentially free of residual bone marrow, and which may be used in the prepn. of small bone grafts. Thus transmission of infective agents (bacteria and viruses, esp. HIV) is reduced, while structural damage to the cancellous bone is minimised.

Dwg.0/8

L59 ANSWER 3 OF 3 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD

ACCESSION NUMBER: 94-016055 [02] WPIDS

DOC. NO. NON-CPI: N94-012082

DOC. NO. CPI: C94-007662

TITLE: Extn. of undesirable bone constituents partic. for

bone tissue de-mineralisation for implants - by  
flowing soln. through bone in column until  
predetermined characteristic of the outflowing  
soln. is achieved.

DERWENT CLASS: B04 S03  
INVENTOR(S): BOTTENFIELD, S; WOLFINBARGER, L  
PATENT ASSIGNEE(S): (LIFE-N) LIFENET  
COUNTRY COUNT: 1  
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 5275954	A	940104	(9402)*		16

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 5275954	A	US 91-664675	910305

PRIORITY APPLN. INFO: US 91-664675 910305

AN 94-016055 [02] WPIDS

AB US 5275954 A UPAB: 940223

Bone, from which undesirable constituents are to be removed, is loaded into at least one column (1) and a first solution (A) is flowed through the column until a predetermined characteristics of a first solute which is present in the solution as the solution leaves the column, reaches a desired value.

Pref. a number of different solutions (A,B,C) preflowed through the column in sequence with a predetermined characteristic of each solution being monitored. First soln. may be a lipophilic solvent the second water or acid, and the third calcium or calcium ions. The characteristics detected may be the absorbence of the first or second solutes, e.g. by dipping into deionised water and determining whether a precipitor detecting conductivity using a calcium specific electrode. The bone can be particulate or strips of cortical bone with a number of colums being processed simultaneously under computer control.

USE/ADVANTAGE - Used particularly for the demineralisation of bone tissue to be used for implantatin or for the encouragement of new bone growth. Extn. can be controlled so as to achieve required processing in less time using less volume of soln. than in prior processes. The resulting processed bone can be frozen and kept in the column without further handling.

Dwg.1/16

=&gt; file home

FILE 'HOME' ENTERED AT 12:15:12 ON 07 JUL 1997

(FILE 'HOME' ENTERED AT 11:05:58 ON 07 JUL 1997)

FILE 'LCA' ENTERED AT 11:06:46 ON 07 JUL 1997

L1 90 SEA BONEMARROW? OR MARROW?  
 L2 0 SEA L1(3A) (REMOV? OR DETACH? OR WITHDRAW? OR EXTRACT? OR  
 EXT# OR EXTRICAT? OR EXCIS? OR EJECT? OR UNFASTEN? OR DIS  
 CONNECT? OR DISENGAG? OR STRIP OR STRIPS OR STRIPPED OR S  
 TRIPPING# OR FLUSH? OR IRRIGAT? OR PURG? OR CLEAN? OR RIN  
 S? OR WASH? OR EXTIRPAT?)  
 L3 0 SEA 1(3A) (ENUCLEA? OR EXCAVAT? OR DREDG? OR DERACINAT? OR  
 ASPIRAT? OR SUCTION? OR (DRAW? OR SIPHON? OR SUCK?) (2W) (  
 OFF OR OUT) OR DRAIN?)  
 L4 0 SEA (L2 OR L3) AND BONE?  
 L5 306 SEA SONIC? OR ULTRASONIC? OR ULTRASOUND? OR ULTRA(2W) SOUN  
 D?

FILE 'WPIDS, BIOSIS, EMBASE, MEDLINE' ENTERED AT 11:17:11 ON 07 JUL 1997

L6 163 SEA (L2 OR L3) AND BONE?  
 L7 1246 SEA (L2 OR L3) AND BONE?  
 L8 1327 SEA (L2 OR L3) AND BONE?  
 L9 1596 SEA (L2 OR L3) AND BONE?

TOTAL FOR ALL FILES

L10 4332 SEA L4  
 L11 50508 SEA SONIC? OR ULTRASONIC? OR ULTRASOUND? OR ULTRA(2W) SOUN  
 D?  
 L12 60554 SEA SONIC? OR ULTRASONIC? OR ULTRASOUND? OR ULTRA(2W) SOUN  
 D?  
 L13 60714 SEA SONIC? OR ULTRASONIC? OR ULTRASOUND? OR ULTRA(2W) SOUN  
 D?  
 L14 74758 SEA SONIC? OR ULTRASONIC? OR ULTRASOUND? OR ULTRA(2W) SOUN  
 D?

TOTAL FOR ALL FILES

L15 246534 SEA L5  
 L16 2596 SEA (BONE? OR MARROW?) (3A) (GRAFT? OR ALLOGRAFT? OR TRANSP  
 LANT? OR IMPLANT? OR AUTOGRAFT? OR XENOGRAFT?)  
 L17 32810 SEA (BONE? OR MARROW?) (3A) (GRAFT? OR ALLOGRAFT? OR TRANSP  
 LANT? OR IMPLANT? OR AUTOGRAFT? OR XENOGRAFT?)  
 L18 31509 SEA (BONE? OR MARROW?) (3A) (GRAFT? OR ALLOGRAFT? OR TRANSP  
 LANT? OR IMPLANT? OR AUTOGRAFT? OR XENOGRAFT?)  
 L19 41106 SEA (BONE? OR MARROW?) (3A) (GRAFT? OR ALLOGRAFT? OR TRANSP  
 LANT? OR IMPLANT? OR AUTOGRAFT? OR XENOGRAFT?)

TOTAL FOR ALL FILES

L20 108021 SEA (BONE? OR MARROW?) (3A) (GRAFT? OR ALLOGRAFT? OR TRANSP  
 LANT? OR IMPLANT? OR AUTOGRAFT? OR XENOGRAFT?)  
 L21 0 SEA L6 AND L11

L22 2 SEA L7 AND L12  
 L23 4 SEA L8 AND L13  
 L24 2 SEA L9 AND L14

## TOTAL FOR ALL FILES

L25 8 SEA L10 AND L15  
 L26 22 SEA L11 AND L16  
 L27 34 SEA L12 AND L17  
 L28 46 SEA L13 AND L18  
 L29 70 SEA L14 AND L19

## TOTAL FOR ALL FILES

L30 172 SEA L15 AND L20

FILE 'LCA' ENTERED AT 11:28:01 ON 07 JUL 1997

L31 4937 SEA REMOV? OR DETACH? OR WITHDRAW? OR EXTRACT? OR EXT# OR  
 EXTRICAT? OR EXCIS? OR EJECT? OR UNFASTEN? OR DISCONNECT  
 ? OR DISENGAG? OR STRIP OR STRIPS OR STRIPPED OR STRIPPIN  
 G# OR FLUSH? OR IRRIGAT? OR PURG? OR CLEAN? OR RINS? OR W  
 ASH? OR EXTIRPAT?  
 L32 168 SEA ENUCLEA? OR EXCAVAT? OR DREDG? OR DERACINAT? OR ASPIR  
 AT? OR SUCTION? OR (DRAW? OR SIPHON? OR SUCK?) (2W) (OFF OR  
 OUT) OR DRAIN?

FILE 'BIOSIS, EMBASE, MEDLINE' ENTERED AT 11:30:58 ON 07 JUL 1997

L34 5 SEA L26 AND (L31 OR L32)  
 L35 11 SEA L28 AND (L31 OR L32)  
 L36 12 SEA L29 AND (L31 OR L32)

## TOTAL FOR ALL FILES

L37 36 SEA L30 AND (L31 OR L32)

FILE 'MEDLINE' ENTERED AT 11:33:42 ON 07 JUL 1997

L38 DEL 0 FILE MEDLINE  
 14 SEA L26 NOT L33 \*

FILE 'MEDLINE' ENTERED AT 11:34:52 ON 07 JUL 1997

FILE 'MEDLINE' ENTERED AT 11:35:42 ON 07 JUL 1997

FILE 'MEDLINE' ENTERED AT 11:36:39 ON 07 JUL 1997

L43 13 SEA L24 OR L36  
 L44 58 SEA L29 NOT L43  
 E BONE MARROW PURGING/CT  
 L45 939 SEA "BONE MARROW PURGING"+NT/CT  
 E BONE MARROW/CT  
 L46 56219 SEA "BONE MARROW"+NT/CT  
 L47 10133 SEA L46 (L) TRANSPLANTATION/CT

L48           1333   E SONICATION/CT  
              1333   SEA SONICATION+NT/CT  
              E ULTRASONICS/CT  
 L49           29457   SEA ULTRASONICS+NT/CT  
              E VIBRATION/CT  
 L50           8156   SEA VIBRATION+NT/CT  
              E BONE MARROW TRANSPLANTATION/CT  
 L51           21917   SEA "BONE MARROW TRANSPLANTATION"+NT/CT  
 L52           7   SEA (L45 OR L47 OR L51) AND (L48 OR L49 OR L50)

20 SEA L42 OR L43

53 SEA L44 NOT L53

\*

\* titles and selected abstracts

FILE 'HOME' ENTERED AT 11:46:54 ON 07 JUL 1997

FILE 'HOME' ENTERED AT 12:15:12 ON 07 JUL 1997

FILE HOME

FILE LCA

LCA IS A STATIC LEARNING FILE 0/646,519

THIS FILE CONTAINS CAS REGISTRY NUMBERS FOR EASY AND ACCURATE  
SUBSTANCE IDENTIFICATION.

This file contains CAS Registry Numbers for easy and accurate  
substance identification.

FILE WPIDS

FILE LAST UPDATED: 02 JUL 97 <970702/UP>

>>>UPDATE WEEKS:

\*MOST RECENT DERWENT WEEK 9727 <199727/DW>

DERWENT WEEK FOR CHEMICAL CODING: 9721

DERWENT WEEK FOR POLYMER INDEXING: 9724

DERWENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1963 TO DATE

>>> D COST AND SET NOTICE DO NOT REFLECT SUBSCRIBER DISCOUNTS -

OR SEE HELP COST FOR DETAILS <<<

>>> PCT PUBLICATIONS FROM 19 DECEMBER 1996 - SEE NEWS <<<

FILE BIOSIS

FILE COVERS 1969 TO DATE.

CAS REGISTRY NUMBERS AND CHEMICAL NAMES (CNS) PRESENT

FROM JANUARY 1969 TO DATE.

RECORDS LAST ADDED: 3 July 1997 (970703/ED)

CAS REGISTRY NUMBERS (R) LAST ADDED: 3 July 1997 (970703/UP)

FILE EMBASE

FILE COVERS 1974 TO 2 Jul 1997 (970702/ED)

Numbers 1

1/27

1/28

1/29

1/30

This file contains CAS Registry Numbers for easy and accurate substance identification.

## FILE MEDLINE

FILE LAST UPDATED: 30 JUN 1997 (19970630/UP). FILE COVERS 1966 TO +QLF/CT SHOWS YOU THE ALLOWABLE QUALIFIERS OF A TERM.

MEDLINE ANNUAL RELOAD AVAILABLE ON STN IN RECORD TIME (2/08/97). ENTER HELP RLOAD FOR DETAILS.

THIS FILE CONTAINS CAS REGISTRY NUMBERS FOR EASY AND ACCURATE SUBSTANCE IDENTIFICATION.

=> file wpids

FILE 'WPIDS' ENTERED AT 12:16:05 ON 07 JUL 1997  
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FILE LAST UPDATED: 02 JUL 97

<970702/UP>

>>>UPDATE WEEKS:

MOST RECENT DERWENT WEEK

9727 <199727/DW>

DERWENT WEEK FOR CHEMICAL CODING: 9721

DERWENT WEEK FOR POLYMER INDEXING: 9724

DERWENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1963 TO DATE

>>> D COST AND SET NOTICE DO NOT REFLECT SUBSCRIBER DISCOUNTS -  
SEE HELP COST FOR DETAILS <<<

>>> PCT PUBLICATIONS FROM 19 DECEMBER 1996 - SEE NEWS <<<

=> d l33 1-8 ibib abs

L33 ANSWER 1 OF 8 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD

ACCESSION NUMBER: 94-316854 [39] WPIDS

DOC. NO. NON-CPI: N94-248841

DOC. NO. CPI: C94-144352

TITLE: Compsn. of calcium-phosphate apatite crystals - has some chemical compsn. structure, short range order, and index of crystallinity as apatite in bone and is free of collagen fibrils.

DERWENT CLASS: D22 E33 P34

INVENTOR(S): GLIMCHER, M J; KIM, H; REY, C

PATENT ASSIGNEE(S): (CHIL-N) CHILDRENS MEDICAL CENT

COUNTRY COUNT: 22

PATENT INFORMATION:

PATENT NO KIND DATE WEEK LA PG

WO 9421556 A1 940929 (9439)\* EN 33  
RW: AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE  
W: AU CA JP KR  
AU 9464156 A 941011 (9504)  
US 5439951 A 950808 (9537) 9  
EP 690820 A1 960110 (9607) EN

R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE  
 US 5565502 A 961015 (9647) 12  
 JP 08510984 W 961119 (9708) 28

## APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 9421556	A1	WO 94-US3214	940324
AU 9464156	A	AU 94-64156	940324
US 5439951	A	US 93-36412	930324
EP 690820	A1	EP 94-911700	940324
		WO 94-US3214	940324
US 5565502	A CIP of	US 93-36412	930324
		US 95-409755	950324
JP 08510984	W	JP 94-521376	940324
		WO 94-US3214	940324

## FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 9464156	A Based on	WO 9421556
EP 690820	A1 Based on	WO 9421556
US 5565502	A CIP of	US 5439951
JP 08510984	W Based on	WO 9421556

PRIORITY APPLN. INFO: US 93-36412 930324

AN 94-316854 [39] WPIDS APPLICATION

AB WO 9421556 A UPAB: 941122

A compsn. of Ca-phosphate apatite crystals of the same chemical compsn., structure, short range order and index of crystallinity as the Ca-phosphate crystals present in bone selected from bone, cartilage, cementum, dentin and enamel is essentially free of collagen fibrils.

USE - The biologically, naturally formed crystals of apatite are free of organic material and consists of highly uniform crystals w.r.t. chemistry, structure, size, shape and index of crystallinity. Further purificn. removes all organic material without disrupting the natural crystalline structure of the bone crystals. The crystals are useful in a variety of applications, including chromatographic sepn. and isolation of proteins and in medical and therapeutic applications, such as in the healing and repair of bone, replacement of bone with eventual formation of new bone in the defects and in coating of specific surfaces of artificial joints or teeth implanted in bone.

Dwg. 0/1

ABEQ US 5439951 A UPAB: 950921

Calcium phosphate apatite crystals are isolated from bone, by (a) grinding clean bone pieces without water at liq. N2 temp. to size 200 microns; (b) sepg. crystals obtd. from collagen fibrils



by **sonication** of the particles suspended in a non-aq. solvent for the fibril at just above the solvent freezing point; and (c) sepg. solvent and fibrils from the crystals.

Non-aq. solvent is less polar than methanol, and does not dissolved the crystal. Bone used comprises bone, cartilage, cementum, dentin, an enamel.

USE - In prodn. of an implant into gaps or areas of bone resorption.

Dwg.0/1

ABEQ US 5565502 A UPAB: 961124

Composition of calcium-phosphate apatite crystals essentially free of hydroxyl groups, and having essentially the same chemical composition, structure, short range order, and index of crystallinity as the calcium-phosphate crystals present in bone. The bone is selected from the group consisting of bone, cartilage, cementum, dentin, and enamel.

Dwg.0/1

L33 ANSWER 2 OF 8 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD

ACCESSION NUMBER: 94-304189 [38] WPIDS

CROSS REFERENCE: 94-358948 [45] 0/0/0,019

DOC. NO. NON-CPI: N94-281206

TITLE: **Ultrasonic device for removal**  
of osteal prostheses - has massive stainless steel body with collet with socket for hip prosthesis ball head with piezoelectric ceramic transducer exciting body.

DERWENT CLASS: P31 P32 S05 V06

INVENTOR(S): BRADNOCK, B R D; YOUNG, M J R; BRADNOCK, B R D P

PATENT ASSIGNEE(S): (BRAD-I) BRADNOCK B R D; (YOUN-I) YOUNG M J R; (ORTH-N) ORTHOSONICS LTD; (BRAD-I) BRADNOCK B R D P

COUNTRY COUNT: 20

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
EP 617935	A2	941005 (9438)*	EN	14	
R: AT BE CH DE DK ES FR GB GR IE IT LI NL PT SE					
AU 9459069	A	940929 (9440)			
NO 9401109	A	940927 (9442)			
CA 2119969	A	940926 (9445)		26	
ZA 9402120	A	950426 (9522)		23	
EP 617935	A3	941221 (9537)			
US 5536272	A	960716 (9634)		12	
US 5626584	A	970506 (9724)		13	

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
EP 617935	A2	EP 94-302231	940329

AU 9459069 A  
 NO 9401109 A  
 CA 2119969 A  
 ZA 9402120 A  
 EP 617935 A3  
 US 5536272 A  
 US 5626584 A Div ex

AU 94-59069 940328  
 NO 94-1109 940325  
 CA 94-2119969 940325  
 ZA 94-2120 940325  
 EP 94-302231 940329  
 US 94-216805 940323  
 US 94-216805 940323  
 US 95-422988 950417

## FILING DETAILS:

PATENT NO KIND

PATENT NO

US 5626584 A Div ex

US 5536272

PRIORITY APPLN. INFO: GB 93-6380

930326; US 94-216805 940323

AN 94-304189 [38] WPIDS

CR 94-358948 [45]

AB EP 617935 A UPAB: 970516

The device comprises a relatively large mass stainless steel annular body (10) with a cylindrical bore (11) which is slightly convergent downwardly, for coaction with a chuck or collet (12). The lower end of the collet is longitudinally split by a slit (15) to form two fingers (16, 17) which have internal concave surfaces to engage with the ball head of a hip prosthesis.

The device is driven onto the ball head by hampering downwards. An electromechanical transducer (20) is externally secured to the periphery of the body to excite the body. The transducer has a central axis (21) of mechanical resonant frequency of 20 to 40 kHz and is of the piezoelectric ceramic variety.

USE/ADVANTAGE - Improved method of dislodging an osteal prosthesis from cemented installation in living bone in e.g revision arthroplasty. Minimises patient trauma.

Dwg.1/12

ABEQ US 5536272 A UPAB: 960829

The method of removing a bone-implanted prosthetic from an installed situs of cemented or bony-ingrowth retention within a living bone, wherein at least a portion of the prosthetic is externally exposed with respect to the bone, which method comprises the steps of:

(a) selecting an annular body of a material capable of radial-mode resonant oscillation in the frequency range 20 kHz to 40 kHz, said body having a central axial bore of size to accommodate an exposed portion of the prosthetic;

(b) securing the exposed portion of the prosthetic with substantially complete circumferential continuity within said bore; and

(c) ultrasonically exciting said body into radial-mode oscillation by generally radially inwardly directing mechanical-displacement energy at a peripheral location on said body, said driving energy being imparted to said body within said

the body  
 the body  
 the body  
 the body

frequency range.

Dwg.9/13

ABEQ US 5626584 A UPAB: 970612

A tool for use in revision arthroplasty, wherein a prosthetic member to be removed is encumbered by bone cement and exposes a head adapted for assembled joint articulation, said tool comprising a circumferentially continuous annular body having a central bore, chuck means adapted for selectively locked engagement of an exposed prosthetic head to the bore of said body, and an ultrasonic driver having a central axis of mechanically resonant oscillation, said driver being connected to said body with its oscillation axis directed generally radially inward with respect to said central bore.

Dwg.1/13

L33 ANSWER 3 OF 8 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD

ACCESSION NUMBER: 94-256132 [32] WPIDS

DOC. NO. NON-CPI: N94-201806

TITLE: Non-invasive determination of dimensions and strength of defective bone or tissue prior to transplant operation, using computer tomography, NMR, ultrasonics, X-rays or holographic non-invasive investigation.

DERWENT CLASS: P31 P32 S05

INVENTOR(S): KLIEGIS, U G

PATENT ASSIGNEE(S): (MDCM-N) MDC MEDICAL DIAGNOSTIC COMPUTING GMBH

COUNTRY COUNT: 1

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
DE 4304572	A1	940818	(9432)*	4	4

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
DE 4304572	A1	DE 93-4304572	930216

PRIORITY APPLN. INFO: DE 93-4304572 930216

AN 94-256132 [32] WPIDS

AB DE 4304572 A UPAB: 940928

In a transplant operation, defective tissue or bone is removed and replaced by healthy tissues from elsewhere in the same organism or from a donor organism. Before the transplant is effected, the strength of the defective tissue or bone is established without any invasive operation, and this information is used in the manufacture or selection of the replacement transplant material.

The characteristics of the defective tissue or bone are

established by computer tomography, nuclear spin resonance, ultrasonics, X-rays and/or holographic images to form a layered series of images.

ADVANTAGE - Accurate match reduces probability of mis-match and associated problems.

Dwg.0/0

L33 ANSWER 4 OF 8 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD  
 ACCESSION NUMBER: 94-256130 [32] WPIDS  
 DOC. NO. NON-CPI: N94-201804  
 TITLE: Surgical instrument manipulating arm and computer control system - uses three-dimensional data model in computer to assist in reconciliation of previous surgery and **bone transplants**.  
 DERWENT CLASS: P31 S02 S05  
 INVENTOR(S): KLIEGIS, U G; KLIEGIS, U  
 PATENT ASSIGNEE(S): (MDCM-N) MDC MEDICAL DIAGNOSTIC COMPUTING GMBH;  
 (KLIE-I) KLIEGIS U G  
 COUNTRY COUNT: 2  
 PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
DE 4304570	A1	940818	(9432)*		5
WO 9418899	A1	940901	(9436)	GE	16
EP 684795	A1	951206	(9602)	GE	5
JP 08508656	W	960917	(9704)		13

#### APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
DE 4304570	A1	DE 93-4304570	930216
WO 9418899	A1	WO 94-DE156	940215
EP 684795	A1	EP 94-906872	940215
		WO 94-DE156	940215
JP 08508656	W	JP 94-518545	940215
		WO 94-DE156	940215

#### FILING DETAILS:

PATENT NO	KIND	PATENT NO
EP 684795	A1 Based on	WO 9418899
JP 08508656	W Based on	WO 9418899

PRIORITY APPLN. INFO: DE 93-4304570 930216

AN 94-256130 [32] WPIDS

AB DE 4304570 A UPAB: 941102

The positioning device (2) consists of a numerically controlled manipulation arm (4) with several degrees of freedom in a reference

coordinate system (6). On a static operating surface (8) the patient is fixed so that the operating area on the patient (10) is within the area of movement of the manipulation arm mounted (12) surgical instrument (16).

Movement of the arm (4) is under control of computer system (20) in which a 3-D model of the operating area (10) is stored. This 3-D data model is previously acquired using one or more techniques including computer tomography NMR tomography, ultrasound, X-ray or biological investigation. If a bone transplant is performed, the insert (14) may be positioned using the arm while it is cemented in place.

USE/ADVANTAGE - Allows greater precision in surgery, esp. in cranial surgery, where bone removal and transplantation is performed, and matching of removed/replaced bone sections is critical.

Dwg.1/1

L33 ANSWER 5 OF 8 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD

ACCESSION NUMBER: 94-109208 [13] WPIDS

DOC. NO. NON-CPI: N94-085407

DOC. NO. CPI: C94-050547

TITLE: Removing thermoplastic or elastomeric cores e.g. implant bone cement  
- in which a receptacle for the cores is mounted on a handpiece in line with an ultrasonically vibrated tubular tip.

DERWENT CLASS: A96 D21 P31

INVENTOR(S): WUCHINICH, D G

PATENT ASSIGNEE(S): (SONO-N) SONOKINETICS GROUP

COUNTRY COUNT: 1

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 5300021	A	940405	(9413)*		9

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 5300021	A	US 92-932786	920820

PRIORITY APPLN. INFO: US 92-932786 920820

AN 94-109208 [13] WPIDS

AB US 5300021 A UPAB: 940517

Appts. for removing cores (26) of thermoplastic or elastomeric material comprises (a) a handpiece (17) provided with a longitudinally extending tube (18) of acoustically conductive material, (b) an ultrasonic transducer (19) acoustically coupled to the tube (18) for causing the tube to vibrate at an

ultrasonic frequency whereby, upon engagement with the material, cores (26) thereof are removed and inserted into the tube (18), and (c) a receptacle (40) mounted on the handpiece (17) in line with the tube (18), and connected to a vacuum source (23) so that cores (26) of material inserted into the tube (18) are drawn along a substantially linear path through the tube and into the receptacle (40).

USE/ADVANTAGE - Esp. for removing bone cement (2) e.g. methylmethacrylate, after removal of a prosthetic implant (3), e.g. for a hip joint. The mounting of the receptacle (40) on the handpiece (17) and in line with the tube (18) eliminates the danger of blockage caused by cores of material lodging in any curved portions of the flexible tubing used to connect the tube (18) to a receptacle located on the floor e.g. of the operating theatre. Such a blockage could endanger the life of a patient on a life support system.

Dwg.2/9

L33 ANSWER 6 OF 8 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD  
 ACCESSION NUMBER: 91-177834 [24] WPIDS  
 DOC. NO. NON-CPI: N91-136238 3/646,519  
 TITLE: Ultrasonic method for bone cement removal - melting and aspirating cement from cavity for prosthetic bone implant repairs or replacements.  
 DERWENT CLASS: P31 P33 S05  
 INVENTOR(S): WUCHINICH, D G  
 PATENT ASSIGNEE(S): (SONO-N) SONOKINETICS INC; (SONO-N) SONOKINETICSS GROUP; (SONO-N) SONOKINETICS GROUP  
 COUNTRY COUNT: 21  
 PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9107138	A	910530	(9124)*		
RW: AT BE CH DE DK ES FR GB GR IT LU NL SE					
W: AU CA FI JP KR NO					
AU 9169510	A	910613	(9137)		
EP 500803	A1	920902	(9236)	EN	47
R: AT BE CH DE DK ES FR GB GR IT LI LU NL SE					
US 5167619	A	921201	(9251)		19
US 5176677	A	930105	(9304)		20
JP 05501661	W	930402	(9318)		
EP 500803	A4	921216	(9524)		

#### APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
EP 500803	A1	WO 90-US6737	901116
		EP 91-901114	901116

US 5167619	A	CIP of	US 89-439114	891117
			US 90-529029	900525
US 5176677	A		US 89-439114	891117
JP 05501661	W		WO 90-US6737	901116
			JP 91-501489	901116
EP 500803	A4		EP 91-901114	

## FILING DETAILS:

PATENT NO	KIND	PATENT NO
EP 500803	A1 Based on	WO 9107138
JP 05501661	W Based on	WO 9107138

PRIORITY APPLN. INFO: US 89-439114 891117; US 90-529029 900525

AN 91-177834 [24] WPIDS

AB WO 9107138 A UPAB: 930928

The method **removes** cement(2) from bone or bone cavities(4), by applying **ultrasonic** vibration. A hollow elongated tool(6) is associated with the vibration source to melt or shear the residual cement. Concentric tubes(11) are employed under **suction** to **aspirate** the cement particles for collection in a cannister(14), typically fitted with a trap(13).

Th ViC MY iliOn811Y l1OW h Virtin,tOOl,O 00lt to facilitate **removal** of the cement.

USE/ADVANTAGE - For **removal** of bone cement in periodic repair and replacement of **prosthetic bone implants**, while minimising risk of **damage** to bone itself.

1/18

ABEQ US 5167619 A UPAB: 930928

The surgical appts. has a handpiece, a vibration source with the handpiece for generating mechanical vibrations in response to current and an elongated hollow tool operatively associated with the vibration source and attached to the handpiece at a point where essentially no vibrational motion occurs. The tool extends away from the handpiece to the cement to be **removed**. Cement is **removed** using the surgical appts. by applying the tool to the cement and applying mechanical vibration to the cement causing the cement to melt. **Removing** the cement by **suction** through the hollow elongated tool.

Additional alternate steps include rotating the tool to apply shear forces to the cement being **removed**, cooling and damping lateral vibrations at the tool end, and irrigating the cement while melting and **removing** it. Associated with the alternate steps are embodiments of the appts. including a motor for rotating the elongated tool while vibrating and a concentric tubular members for cooling, damping, irrigation and **aspiration**.

USE/ADVANTAGE - **Removing** bone cement during replacement and repair of **prosthetic bone implants**, increased rate of **removal** of cement without increasing

possibility of damage to surrounding bone.

1/6

ABEQ US 5176677 A UPAB: 930928

The surgical instrument comprises a vibration source within a handpiece for generating mechanical vibrations in response to current applied to it. An elongated tool is operatively associated with the vibration source and attached to the handpiece at a point where no vibrational motion occurs. The tool extends away from the handpiece to a work site. Vibration of the tool causes disintegration and removal of hydrated biological material.

A rotor is connected to the vibration source at the point where no vibrational motion occurs, for rotating the vibrational source and elongated tool about their circumference through at least one revolution. The rotor enables the elongated tool to remove non-hydrated biological material. The work site is irrigated with fluid to assist in withdrawing removed biological material. An aspiration unit withdraws irrigation fluid and removed biological material from the work site.

USE - Endoscopic ultrasonic rotary electro-cauterising aspirator.

1/12

ring bone

L33 ANSWER 7 OF 8 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD

ACCESSION NUMBER: 88-105399 [15] WPIDS

DOC. NO. NON-CPI: N88-079934 cal vibratic

TITLE: Hand-held device for extracting or inserting bone-related implants - uses train of sonic pulses to oscillate article relative to bone producing interfacial micro-fracture without bone damage.

DERWENT CLASS: P31 P32 S05

INVENTOR(S): HELLER, F G

PATENT ASSIGNEE(S): (DICE-I) DICECCA C A; (DIDE-I) DIDECCA C A

COUNTRY COUNT: 13

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 8802246	A	880407	(8815)*	EN	36
RW: AT BE CH DE FR GB IT LU NL SE					
W: JP US					
EP 287614	A	881026	(8843)	EN	
R: AT BE CH DE FR GB IT LI LU NL SE					

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 8802246	A	WO 87-US2496	870928



EP 287614 A

EP 87-906885 870928

PRIORITY APPLN. INFO: US 86-912360 860926

AN 88-105399 [15] WPIDS

AB WO 8802246 A UPAB: 930923

A mating fixture is attached and secured to the article and a series or train of **sonic** pulses is applied to the fixture with a hand-held tool. The pulses exert force only in a prescribed direction parallel to the direction of **removal**.

The waveshape of the force pulses can be adjusted in frequency and amplitude to effect incremental **removal** of a bone-related article without damaging the bone. In some cases the article oscillates relative to the bone and microfractures are produced at the interface between article and bone.

The pulses may be in the form of small hammer blows produced by a mass surrounding a tubular electrical conductor, in turn surrounded by a coil connected to an electrical pulse generator.

USE/ADVANTAGE - Surgical implant, prostheses, dental restoration, etc. Ensures easy **removal** of implants.

6/7

L33 ANSWER 8 OF 8 WPIDS COPYRIGHT: 1997 DERWENT INFORMATION LTD

ACCESSION NUMBER: 83-A2391K [01] WPIDS

DOC. NO. NON-CPI: N83-003159

TITLE: Method of covering bone-air cavity defects - by filling cavity with balloon holding working medium before applying bone-glue composition.

DERWENT CLASS: P31

INVENTOR(S): MISHENKIN, N V; MOZGOVOI, I V; PEDDER, V V

PATENT ASSIGNEE(S): (OMME) OMSK MED INST; (OMPO) OMSK POLY

COUNTRY COUNT: 1

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
SU 906530	B	820225	(8301)*	2	1

PRIORITY APPLN. INFO: SU 80-2937767 800612

AN 83-A2391K [01] WPIDS

AB SU 906530 B UPAB: 930925

The method of making up defects of bone air cavities involves filling in the defect with a **bone transplant** and then filling in the space between the edges of the defect and the transplant with a composition of bone tissue and glue which is then subjected to treatment with **ultrasound**.

In order to prevent displacement of the **bone transplant** fitted in the defect and to prevent the composition of bone tissue and glue getting into the cavity, first,

before the composition of bone tissue and glue is applied, a container of changeable volume is introduced into the cavity through an additional aperture and then filled with working medium.

Once the operation of covering up the defect has been completed, the working medium is **drained** from the container, which then deflates and hence reduces in size, allowing it to be **withdrawn** from the cavity without difficulty.  
Bul.7/23.2.82.

=> d 138 1- ti

L38 ANSWER 1 OF 14 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD  
TI Prepn. of **bones** for **transplantation** - by measurement of the rate of propagation of **ultrasound** through the bone during prepn..

L38 ANSWER 2 OF 14 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD  
TI **Ultrasonic** bone healing appts. for dental use - enhances osseointegration of **implant** in **jaw-bone** using **ultrasonic** waves from piezoelectric transducers encapsulated in cast which surrounds treatment/area.

L38 ANSWER 3 OF 14 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD  
TI Orthopaedic prosthesis incorporating microporous membrane - which covers the junction between prosthesis and bone preventing degeneration due to the ingress of submicron wear particles.

L38 ANSWER 4 OF 14 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD  
TI Treatment of rota-virus infection and diarrhoea with human milk prods - of partic value for infants, or elderly or immuno-compromised patients.

L38 ANSWER 5 OF 14 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD  
TI Bonding bioactive silicate glass ceramic onto titanium implant - by electrophoretic sepn. from non aq. suspension of powdered bio glass and heating.

L38 ANSWER 6 OF 14 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD  
TI Cutting slit in **jaw-bone** for oral **implant** - involves disc with saw teeth which is vibrated at **ultrasonic** frequency.

L38 ANSWER 7 OF 14 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD  
TI Prepn. of synthetic **bone transplant** - from hydroxy-apatite salt or beta-tri calcium phosphate, gelatin or collagen, water, antibiotics and sulphanilamide.

L38 ANSWER 8 OF 14 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD  
TI Electro-stimulation treatment for bone fractures - uses electrical pulses to create an electrical field near a fracture which improve osteogenesis and regeneration of **tissue**.

- L38 ANSWER 9 OF 14 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD  
 TI Bone fracture unit assessment appts. - detects changes in transmission of vibration from one point to another in bone using continuous wave Doppler ultrasonic probes.
- L38 ANSWER 10 OF 14 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD  
 TI Bone transplant for joining congenital cleft palate - by wing formation insertion in gap between vomer and palate plates.
- L38 ANSWER 11 OF 14 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD  
 TI Fixing bio-tissue of different structure and density - by dissecting fibrous insert in bone before ultrasonic treatment.
- L38 ANSWER 12 OF 14 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD  
 TI Trepanation cavity plastic surgery - by forming two bone transplants, joining, treating with ultrasound and placing in cavity.
- L38 ANSWER 13 OF 14 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD  
 TI Attaching biological tissues to bone bed - making conical support recesses holding fibrous inserts whose projections enter transplants apertures.
- L38 ANSWER 14 OF 14 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD  
 TI Synthetic bone for transplantation prepn. - moulded from bone powder in ultrasonic vibration field, using additives.

=> d l38 4,11,12 ibib abs

L38 ANSWER 4 OF 14 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD  
 ACCESSION NUMBER: 94-166997 [20] WPIDS  
 DOC. NO. CPI: C94-076483  
 TITLE: Treatment of rota-virus infection and diarrhoea with human milk prods - of partic value for infants, or elderly or immuno-compromised patients.  
 DERWENT CLASS: B04 D13  
 INVENTOR(S): NEWBURG, D S; PETERSON, J A; YOLKEN, R H  
 PATENT ASSIGNEE(S): (CANC-N) CANCER RES FUND CONTRA COSTA; (UYJO) UNIV JOHNS HOPKINS SCHOOL MED; (SENO-N) SENOMED INC  
 COUNTRY COUNT: 44  
 PATENT INFORMATION:

PATENT NO KIND DATE WEEK LA PG

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 WO 9409651 A1 940511 (9420)\* EN 36

RW: AT BE CH DE DK ES FR GB GR IE IT LU MC NL OA PT SE

W: AT AU BB BG BR BY CA CH CZ DE DK ES FI GB HU JP KP KR KZ LK

LU MG MN MW NL NO NZ PL PT RO RU SD SE SK UA US VN

AU 9458961 A 940524 (9434)  
 EP 665721 A1 950809 (9536) EN  
 R: BE DE DK ES FR GB GR IT NL PT SE  
 US 5505955 A 960409 (9620) 12

## APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 9409651	A1	WO 93-US10732	931029
AU 9458961	A	WO 93-US10732	931029
		AU 94-58961	931029
EP 665721	A1	WO 93-US10732	931029
		EP 94-905313	931029
US 5505955	A Cont of	US 92-969949	921030
		US 95-378865	950123

## FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 9458961	A Based on	WO 9409651
EP 665721	A1 Based on	WO 9409651

PRIORITY APPLN. INFO: US 92-969949 921030; US 95-378865 950123

AN 94-166997 [20] WPIDS 13

AB WO 9409651 A UPAB: 950927

Method of retarding onset of, or countering, rotavirus infection of a mammalian cell, comprising contacting with an agent selected from defatted human milk fat globule, human milk macromolecular fraction, skim milk, curd, whey, human milk mucin: 70 kD glycoprotein/46 kD glycoprotein (both approx. M.wt) complex, 46 kD glycoprotein, a polypeptide contg. an amino acid sequence having the rotavirus binding specificity of the 46 kD glycoprotein, or their mixts. is new. Also new, but related, is an antidiarrhoeal prod. comprising a foodstuff and agent(s) above. EP 94-090113

USE - Rotavirus infection has been identified as the most important factor in gastroenteritis and diarrhoea, partic. in the very young, but also in the elderly (e.g., in nursing home and day centre outbreaks), the immuno comprised (from genetic deficiency, deliberate suppression, as in bone marrow or organ transplant, or from disease, e.g. AIDS), or their contacts as in travel or in carers. Conveniently the antidiarrhoeal compsn. is packaged in the form of a kit for self-admin., with foodstuff (which includes drink) and agent in separate sterile containers and instructions for use.

In an example, whole human milk was freeze/thaw cycled and sonicated to disrupt fat globules, which were sepd. by centrifugation and glass wool filtration. The 40-300 kD fraction was sepd. from the skim milk by ultrafiltration membrane and dialysis. The mucin complex was then isolated by affinity chromatography using

monoclonal antibody Mc5 on CNBr activated Sepharose beads, with elution by Na isocyanate, then conc. by dialysis. This mucin complex inhibited infection of MA-104 cells by simian SA-11 virus at a concn. of 0.1 micro-g/ml, a 3000-fold increase in specific activity over whole milk.

Dwg.0/0

ABEQ US 5505955 A UPAB: 960520

An anti-diarrheic product, comprising  
a foodstuff, and

as the active ingredient dispersed in a matrix of the foodstuff, an anti-rotaviral infection effective amount of an agent of human milk origin selected from the group consisting of defatted human milk fat globule, the human milk macromolecular fraction, the human milk mucin-70 Kd apparent MW glycoprotein-46 Kd apparent MW HMFG glycoprotein complex, the 46 Kd apparent MW HMFG glycoprotein, a polypspride comprising an amino acid sequence having the rotavirus-binding specificity of the 46 Kd apparent MW HMFG glycoprotein, and mixtures thereof.

Dwg.0/0

L38 ANSWER 11 OF 14 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD

ACCESSION NUMBER: 84-235753 [38] WPIDS

DOC. NO. NON-CPI: N84-176283

DOC. NO. CPI: C84-099632

TITLE: Fixing bio-tissue of different structure and density - by dissecting fibrous insert in bone before ultrasonic treatment.

DERWENT CLASS: D22 P31

INVENTOR(S): MISHENKIN, N V; MOZGOVOI, I V; PEDDER, V V

PATENT ASSIGNEE(S): (OMCL-R) OMSK CLINIC HOSP; (OMPO) OMSK POLY

COUNTRY COUNT: 1

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
SU 1068107	A	840123	(8438)*		

  

PATENT NO	KIND	APPLICATION	DATE
SU 1068107	A	SU 80-3213268	801205

APPLICATION DETAILS:

PRIORITY APPLN. INFO: SU 80-3213268 801205

AN 84-235753 [38] WPIDS

AB SU 1068107 A UPAB: 930925

A layer of fibrous structure is accomplished on the surface of the fibrous inserts by dissecting the inserts (from the side of combination with the transplant and before the initiation of the ultrasonic treatment) to a depth comparable with the

thickness of the transplant and the size of the transverse sections of each fibre. As previously, supporting nests are formed in the bone stock. They are filled with fibrous inserts before fixing connecting-tissue transplant of the relative bone stock by fixing-sutures with the aid of ultrasonics.

USE/ADVANTAGE - Increased strength of fixing-sutures, esp. in medical combination of biological tissue using ultrasonic energy.

Typically, the proposed method gives max. strength of tissue combination and considerably reduces thermodestruction of the combination zones. Bul.3/23.1.84.

0/0

L38 ANSWER 12 OF 14 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD  
 ACCESSION NUMBER: 83-H4106K [22] WPIDS  
 DOC. NO. NON-CPI: N83-096504  
 TITLE: Trepanation cavity plastic surgery - by forming two bone transplants, joining, treating with ultrasound and placing in cavity.  
 DERWENT CLASS: P31  
 INVENTOR(S): TSYCANOV, A I; ZAPOROSHCH, A Y U  
 PATENT ASSIGNEE(S): (KIOT-R) KIEV OTOLARINGOLOGY  
 COUNTRY COUNT: 1  
 PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
SU 946522	B	820730	(8322)*	2	1

PRIORITY APPLN. INFO: SU 79-2783482 790625

AN 83-H4106K [22] WPIDS

AB SU 946522 B UPAB: 930925

The method of trepanation cavity plastic surgery after a common cavity operation on the ear involves opening the cavity, separating off the epidermal layer covering the wall of the trepanation cavity and restoring the osseous back wall of the auditory meatus.

Two restore the tympanic cavity's osseous walls, two bone transplants are formed corresponding in size and form to the exterior auditory meatus' back wall and the attic's lateral wall, then joined to each other using grooves, treated with ultrasound at 26.5kHz-28.5kHz frequency and 0.04-0.08mm amplitude for a period of 3-6 seconds and placed in the trepanation cavity. Bul.28/30.7.82.

=> file biosis

FILE 'BIOSIS' ENTERED AT 12:22:45 ON 07 JUL 1997

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FILE COVERS 1969 TO DATE.

CAS REGISTRY NUMBERS AND CHEMICAL NAMES (CNS) PRESENT  
FROM JANUARY 1969 TO DATE.

RECORDS LAST ADDED: 3 July 1997 (970703/ED)

CAS REGISTRY NUMBERS (R) LAST ADDED: 3 July 1997 (970703/UP)

=> d l39 1-7 ti so ab

L39 ANSWER 1 OF 7 BIOSIS COPYRIGHT 1997 BIOSIS

TI Influence of marrow on **ultrasonic** velocity and attenuation  
in bovine trabecular **bone**.

SO Calcified Tissue International 58 (5), 1996, 362-367. ISSN:  
0171-967X

AB Measurements of **ultrasonic** velocity and specific  
differential attenuation (SDA) were obtained on 24 bovine trabecular  
**bone** specimens from the femoral condyles. The measurements  
were obtained using two pairs of **ultrasonic** transducers,  
one with a low nominal center frequency (500 kHz) and the other pair  
with a high nominal center frequency (1 MHz). The **ultrasonic**  
velocity and specific differential attenuation associated with the  
**bone** samples were determined both with and without marrow,  
i.e., replacing the marrow with water in the pores of the trabecular  
**bone**. Significant increases (2.1% and 2.9%) in the velocity  
of **ultrasound** were observed after removal of the  
marrow, for the low and high frequency transducer pairs,  
respectively. In contrast, significant decreases (-6.5% and -8.8%) in  
SDA were observed after removal of the marrow,  
for the low and high frequency transducer pairs, respectively. The  
**bone** densities (BD) of the samples were also determined using  
single photon absorptiometry (SPA). Correlations between  
**ultrasonic** parameters and **bone** densities for  
samples both with and without marrow were found to be similar. For  
example, for the 1 MHz transducer pair, the correlation between BD  
and velocity was  $r = 0.86$  with marrow, and  $r = 0.89$  without marrow.  
This study also compared the results obtained using a contact (no  
water bath) technique and an insertion (with a water bath) technique  
of **ultrasonic** measurements. For the high frequency  
transducer pair, the correlation coefficients between the two methods  
were  $r = 0.99$  and  $r = 0.93$ , for the velocity and specific  
differential attenuation, respectively. Similar results were found  
for the low frequency transducer pair as well. In addition,  
approximately equal correlations between BD and **ultrasonic**  
velocity and SDA were also found, indicating that contact and  
insertion measurements provide essentially equivalent information.

L39 ANSWER 2 OF 7 BIOSIS COPYRIGHT 1997 BIOSIS

TI Papillary thyroid carcinoma after total body irradiation.

SO Archives of Disease in Childhood 71 (3), 1994, 256-258. ISSN:  
0003-9888

AB Two children developed papillary thyroid carcinoma after allogeneic bone marrow transplantation (BMT) probably due to radiotherapy during remission and pretransplantation conditioning. Establishing a relationship between the cellular thyroid stimulating hormone (TSH) effect and development of carcinoma in cases with high serum TSH concentrations is difficult. After BMT, patients should be regularly followed up with thyroid ultrasound and, when nodularity is found, fine needle aspiration and/or open biopsy are recommended.

L39 ANSWER 3 OF 7 BIOSIS COPYRIGHT 1997 BIOSIS

TI REPOSITIONING OF THE FRACTURED POSTERIOR SURFACE OF THE VERTEBRAL BODY UNDER INTRAOPERATIVE ULTRASOUND GUIDANCE.

SO UNFALLCHIRURG 96 (2). 1993. 88-92. CODEN: UNFAE2

AB The question of whether fragments of the posterior vertebral surface have to be removed in every case remains to be answered. Nevertheless, in many cases it is important to establish the situation inside the spinal canal intraoperatively. To this end we have used intraoperative ultrasound in 21 cases. The results have always corresponded closely with the findings of preoperative and postoperative computed tomography. Under the influence of this method we have modified our operative procedure. The technique of intraoperative ultrasound and our current operative practice are described in the present paper. We use typical cases to show that intraoperative ultrasound of the spinal canal is a very useful technique for several reasons: Accurate depiction of the spinal canal is always possible without destabilizing the dorsal vertebral structures. The risks and disadvantages of intraoperative myelography are avoided. The method is easy and can be repeated as often as desired, an important advantage in checking the success of the removal of fragments and in reviewing the situation after transpedicular cancellous bone grafting.

L39 ANSWER 4 OF 7 BIOSIS COPYRIGHT 1997 BIOSIS

TI A STUDY OF HARD TISSUE FORMATION IN RAT DENTAL PULP PERIODONTAL LIGAMENT AND BONE MARROW IN-VIVO TRANSPLANTATION AND ALKALINE PHOSPHATASE ACTIVITY.

SO SHIKWA GAKUHO 92 (9). 1992. 1261-1274. CODEN: SHGKA3 ISSN: 0037-3710

AB The purpose of this study was to investigate hard-tissue formation in rat dental pulp, periodontal ligament, and bone marrow autografted into muscle. Both the alkaline-phosphatase on histological sections were investigated. Materials and methods: Autograft study Incisors and femurs were removed from Sprague-Dawley rats; and, from them, transplants of dental pulp, periodontal ligament, and bone marrow were prepared and autografted into the rectus abdominal muscle. The animals were sacrificed after 1 or 2 months, and the transplants and their surrounding tissues were removed and fixed in formo-methanol for 24 hours. After specimens were embedded paraffin, serial sections were cut and were examined under an optical



microscope. Localization of alkaline phosphatase on histological section The Azo-dyeing system and immunohistochemistry entailing ABC methods with an antibody of alkaline phosphatase were employed to investigate the localization of alkaline phosphatase on histological sections made from three kinds of experimental tissues. Assay of alkaline phosphatase activity Alkaline phosphatase activity of the 3 tissues was assayed with p-nitrophenyl phosphate (p-NPP) as a substrate. Tissues were collected with 0.2% NP-40 in 1 mM MgCl<sub>2</sub> buffer and homogenized for 60 seconds in a sonication machine. After the homogenate was centrifuged, the upper suspension only was incubated for 60 minutes at 37.degree. C. The optical density of the reaction product was read spectrophotometrically at 410 nm. Results were expressed as the amount of p-nitrophenol (p-NP) released. results: Autograft study Dental-pulp; Both 1 and 2 months after the operation, all the transplants exhibited hard tissue that consisted mainly of bone or osteodentin and a small amount of cartilage in the middle area of the transplants. There was no tubular dentin. Periodontal ligament; All the transplants were encapsulated with fibrous connective tissue. A month after the operation, a small amount of bone-like tissue was observed in 2 of 10 transplants. Two months after the operation, such tissue was found in 4 of 8 transplants. These new hard tissues were deposited on the transplanted tooth, which was sometimes resorpted by multinuclear giant cells. Bone marrow: After the operation, the area of bone-marrow transplants grew indistinct. A month after the operation, however, a small amount of fibrous bone was found in 2 of 10 transplants. Two months after the operation, lamellar bone was found in 4 of 8 transplants. These newly formed hard tissues were encapsulated with fibrous connective tissue demonstrating a few small round-cell infiltrations composed mainly of lymphocytes. Localization of alkaline phosphatase on histological sections. When immunohistochemical methods were employed, odontoblast layers were strongly positive. When Azo-dying methods were used, however, groups of cells immediately below the odontoblast layers demonstrated a much stronger positive reaction in dental-pulp tissue. The osteoblastic layer of the periodontal-ligament space and bone-marrow endosteal layer too were strongly positive. Assay of alkaline phosphatase activity Dental-pulp tissue demonstrated a higher alkaline phosphatase activity than the tissues of the periodontal ligament and the bone marrow. Muscle tissue revealed practically no activity. Conclusion: Dental-pulp tissue demonstrated the highest percentage of osteogenesis and the greatest in vivo alkaline phosphatase activity. The next two greatest degrees of this activity occurred in the periodontal ligament and the bone marrow. The cells of these three kinds of tissues can be termed osteogenic-fibroblasts capable of generating proper new hard tissue when requisite environment and stimuli are provided in vivo.

L39 ANSWER 5 OF 7 BIOSIS COPYRIGHT 1997 BIOSIS  
TI A NEWLY RECOGNIZED FASTIDIOUS GRAM-NEGATIVE PATHOGEN AS A CAUSE OF  
FEVER AND BACTEREMIA.

SO N ENGL J MED 323 (23). 1990. 1587-1593. CODEN: NEJMAG ISSN: 0028-4793

AB Background: We identified a motile, curved, gram-negative bacillus as the cause of persistent fever and bacteremia in two patients with symptomatic human immunodeficiency virus infection. The same organism was subsequently recovered from a ~~bone marrow-~~**transplant** recipient with septicemia and from two immunocompetent persons with week-long febrile illnesses. All the patients recovered after antimicrobial therapy. Methods and Results: Primary cultures of blood processed by centrifugation after blood-cell lysis yielded adherent, white, iridescent, morphologically heterogeneous colonies in 5 to 15 days. Subcultures grew in four days on chocolate, charcoal-yeast **extract**, or blood agar. The organisms stained weakly with safranin and were not acid-fast. Fluorescent-antibody tests for legionella and francisella were negative. Biochemical reactivity was minimal and difficult to ascertain. Agar-dilution testing revealed in vitro susceptibility to most antimicrobial agents tested. The cellular fatty acid composition of the isolates was similar, resembling that of Rochalimaea quintana or brucella species, but not Helicobacter pylori or species of campylobacter of legionella. As resolved by gel electrophoresis, cell-membrane preparations of all isolates contained similar proteins, with patterns that differed from that of R. quintana. Patterns of digestion of DNA from all isolates by EcoRV restriction endonuclease were virtually identical and also differed from that of R. quintana. On immunodiffusion, serum from one convalescent patient produced a line of identify with ~~sonicates~~ of all five isolates. Conclusions: This pathogen may have been unidentified until now because of its slow growth, broad susceptibility to antimicrobial agents, and possible requirement of blood-cell lysis for recovery in culture. It should be sought as a cause of unexplained fever, especially in persons with defective cell-mediated immunity.

L39 ANSWER 6 OF 7 BIOSIS COPYRIGHT 1997 BIOSIS

TI ANTIBODY RESPONSE TO STAPHYLOCOCCUS-AUREUS SURFACE PROTEINS IN RABBITS WITH PERSISTENT OSTEOMYELITIS AFTER TREATMENT WITH DEMINERALIZED BONE IMPLANTS.

SO INFECT IMMUN 57 (2). 1989. 404-412. CODEN: INFIBR ISSN: 0019-9567

AB A rabbit model was used to study the effect of allogeneic demineralized bone powder (DBP) **implants** on the persistence of S. aureus osteomyelitis. Thirty-one rabbits with chronic osteomyelitis of the tibia established by day 21, were started on systemic antibiotics followed by either no additional treatment or debridement plus either DBP (with or without supplemental antibiotics) or supplemental antibiotics only. On day 2, cultures showed a mean of 2 .times. 10<sup>4</sup> CFU/mg of debrided osseous material. By day 70, the treatment most effective in clearing infection was found in animals treated with supplemental antibiotics only (mean of 142 .+- . 116 CFU/mg). In contrast, infection persisted at a 7- to 10-fold-higher level in animals receiving DBP with and without supplemental antibiotics; these results suggest that DBP

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contributed to persistence of infection. Longitudinal sera were tested again staphylococcal **sonic extracts** by immunoblot. Detection of numerous probe-positive bands indicated complex but remarkably similar antibody responses among infected animals. Antibodies attached directly to the cell surfaces of staphylococci as shown by immunogold and blocked the binding of organisms to HEp-2 and human fetal lung cells in a radioadherence assay. Antibodies could be absorbed out by intact organisms and were in reactive by immunoblot against antigens derived from cells pretreated with pronase, proteinase K, or lysostaphin. These results indicate that the major response was directed against staphylococcal cell surface proteins. Surprisingly, only one major band (molecular weight, .apprx. 12,000) was detected when a homologous in vivo antigen preparation was studied by immunoblot. Antibody reactive against this peptide did not appear to react with staphylococci grown in vitro.

L39 ANSWER 7 OF 7 BIOSIS COPYRIGHT 1997 BIOSIS

TI EXTRACTION OF LEUKEMIA ASSOCIATED ANTIGEN AND ACTIVE SPECIFIC IMMUNIZATION WITH LEUKEMIA ASSOCIATED ANTIGEN IN ACUTE LEUKEMIA.

SO NAGOYA J MED SCI 42 (3-4). 1980. 55-68. CODEN: NJMSAG ISSN: 0027-7622

AB Leukemia associated antigen (LAA) was prepared from leukemia cells, using hypotonic lysis and low frequency **sonications**, followed by diethylaminoethyl (DEAE) cellulose column chromatography. Four protein peaks were eluted by stepwise introduction of increased concentration of NaCl solutions. With running on polyacrylamide gel electrophoresis (PAGE), unique bands which were not present in **extracts of remission bone marrow**, appeared in eluates of higher mol. NaCl solution. These eluates produced positive blastogenic response when incubated with autologous remission lymphocytes. Active specific immunization with pooled allogeneic LAA was performed in 14 adult AML patients in complete remission. Immunization was done weekly for 3 wk and immunological studies (measurement of in vitro lymphocyte blastogenic responses and delayed hypersensitivity skin reactions) were done weekly for 5 wk. Twelve out of 14 patients showed increased blastogenic responses to LAA after immunization, and 9 out of 10 studied showed increased blastogenic responses to irradiated autologous leukemia cells. Significant increases in blastogenic responses to both LAA and autologous leukemia cells were noticed on day 22 ( $P < 0.05$ ). The increase of blastogenic responses seems to be higher among the patients whose length of remission was over 12 mo. at the time of immunization. There was no overall significant difference between blastogenic responses in autologous serum or pooled AB(+) serum. Increased skin test reactivity to LAA after immunization was seen in 7 out of 14 patients. Those patients with an initially weak reaction showed increased reactivity after immunization. There was no correlation between blastogenic responses and skin test reactivity.

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substance identification.

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L41 ANSWER 1 OF 14 EMBASE COPYRIGHT 1997 ELSEVIER SCI. B.V.

TI [Embolism and intramedullary femoral surgery].  
EMBOLIES ET CHIRURGIE FEMORALE INTRA-MEDULLAIRE.

SO Revue de Chirurgie Orthopedique et Reparatrice de l'Appareil Moteur,  
(1997) 83/1 (9-21).

Refs: 81

ISSN: 0035-1040 CODEN: RCORAI

AB All intramedullary femoral surgery entails embolic phenomena which explain peroperative collapses formally known as **bone cement implantation syndrome**, as well as perioperative fat embolism syndromes. Locally, the bigger the cavity is, the higher the number of accidents: 2,5-5 per cent for GUEPAR hinged-knee prothesis, 1,75 per cent for total hip arthroplasty with long stem, and 0.1 per cent du ring classic THA with cement limited to the metaphysis. Anomalies in bone vascularization also increase risk: 10.5-13 per cent during prophylactic nailing for shaft metastases, 1-11.5 per cent during hemiarthroplasty cemented in osteoporotic bone of femoral neck fractures, and only 0.1 per cent during THA implanted because of arthrosis. Not only cement, but also rods, reamers, nails, implants, **ultrasonic tool for cement extraction**, increase the pressure inside the cavity. Methylmethacrylate is no longer the only incriminated factor, even if it is responsible for a major part of the compressive load. The intensity and duration of the pressure are correlated with the number of embolic phenomena and with measured cardiopulmonary parameters. The intracavity fat content is expelled (an empty cavity, as in THA revision, does not lead to embolic phenomena). Then filters through the intraosseous veins whose diameter limit the size of the extruded embolic phenomena. The ultrasonography of the inferior vena cava shows innumerable fine particules and thrombi which are already organized under the influence of procoagulant factors released from the operative shield and which remain crumbly. These emboli cross the cardiac cavities. Transesophageal echocardiography (TEE), of recent use, does quantify the amount of right atrial filling, duration of echogenesis and size of particules: the result is higher in patients who underwent cemented versus noncemented THA: however the embolism score is not an indicator of seriousness because it is not correlated with cardiorespiratory manifestations; TEE shows only one fourth of the patent foramen ovale, whereas the atrial septal defect is surely one of the most efficient systemic invasion mechanisms to produce

perioperative fat embolism. Lung response is most often asymptomatic, even if all patients undergoing intramedullary surgery display an increase in pulmonary vascular resistance which is managed by the right heart only, as well as pulmonary (and sometimes systemic) microvascular fat obstruction. Common operating room monitoring procedures do not detect successive embolic phenomena before they cause pulmonary arterial hypertension which then has repercussions on the left heart and in turn causes perioperative hemodynamic accidents. Only pulmonary arterial pressure measurement with a Swan-Ganz catheter gives early and durable signs of an intolerance to embolic load. Preventive treatment is surgical as there is an inverse relation between embolic marrow and marrow eliminated by large volume washes (which is often more effective than draining). Cement indications in older patients as well as the choice of fixation techniques in femoral fractures must take into account the cardio-pulmonary condition of the patient. Resuscitation procedures dealing with these complications end in the patient's death in half of the cases.

- L41 ANSWER 2 OF 14 EMBASE COPYRIGHT 1997 ELSEVIER SCI. B.V.  
 TI Influence of marrow on ultrasonic velocity and attenuation in bovine trabecular bone.  
 SO Calcified Tissue International, (1996) 58/5 (362-367).  
 ISSN: 0171-967X CODEN: CTINDZ  
 AB Measurements of ultrasonic velocity and specific differential attenuation (SDA) were obtained on 24 bovine trabecular bone specimens from the femoral condyles. The measurements were obtained using two pairs of ultrasonic transducers, one with a low nominal center frequency (500 kHz) and the other pair with a high nominal center frequency (1 MHz). The ultrasonic velocity and specific differential attenuation associated with the bone samples were determined both with and without marrow, i.e., replacing the marrow with water in the pores of the trabecular bone. Significant increases (2.1% and 2.9%) in the velocity of ultrasound were observed after removal of the marrow, for the low and high frequency transducer pairs, respectively. In contrast, significant decreases (-6.5% and -8.8%) in SDA were observed after removal of the marrow, for the low and high frequency transducer pairs, respectively. The bone densities (BD) of the samples were also determined using single photon absorptiometry (SPA). Correlations between ultrasonic parameters and bone densities for samples both with and without marrow were found to be similar. For example, for the 1 MHz transducer pair, the correlation between BD and velocity was  $r = 0.86$  with marrow, and  $r = 0.89$  without marrow. This study also compared the results obtained using a contact (no water bath) technique and an insertion (with a water bath) technique of ultrasonic measurements. For the high frequency transducer pair, the correlation coefficients between the two methods were  $r = 0.99$  and  $r = 0.93$  for the velocity and specific differential attenuation, respectively. Similar results were found

for the low frequency transducer pair as well. In addition, approximately equal correlations between BD and ultrasonic velocity and SDA were also found, indicating that contact and insertion measurements provide essentially equivalent information.

- L41 ANSWER 3 OF 14 EMBASE COPYRIGHT 1997 ELSEVIER SCI. B.V.  
TI Chemotherapy in pregnancy.  
SO Clinical Consultations in Obstetrics and Gynecology, (1995) 7/4 (278-284).  
ISSN: 1043-0660 CODEN: CCOGFT
- AB C.G. is a 22-year-old white female, gravida IV, para 2-0-1-2 who presented at 24 weeks gestation with a several month history of abdominal and back pain. The patient also noted severe leg edema for several months duration. C.G. had an unremarkable past medical history as well as an unremarkable family history. She did admit to smoking one pack of cigarettes per day for the last 7 years. Physical examination showed a gravid white female in severe discomfort secondary to pain. Pertinent physical examination findings included a 2 x 3 cm firm cervical lymph node, mild right lower quadrant tenderness, a 25-cm fundal height, severe leg edema, and vulvar edema. Radiologic data included a computed tomography scan of the abdomen and pelvis that showed marked retroperitoneal adenopathy and right hydronephrosis. A normal fetus at 24 weeks gestation was seen on abdominal ultrasound. Fine needle aspiration of the retroperitoneal mass and enlarged cervical lymph node were not sufficient for diagnosis. The supraclavicular lymph node was excised and interpreted pathologically as a poorly differentiated neuroblastoma. The patient was subsequently treated with Cisplatin 100 mg/m<sup>2</sup> and a total of 300 mg/m<sup>2</sup> of etoposide every 4 weeks during the next 3 months. Induction of labor was initiated at 35 weeks gestation secondary to intrauterine growth retardation. This was begun 1 week before the expected chemotherapy nadir. Cesarean section was performed secondary to fetal distress during labor. A normal 1,825 gm infant was delivered and all neonatal laboratory data were within normal limits. After delivery, the mother recovered uneventfully and was treated with high-dose chemotherapy and autologous bone marrow transplantation. Unfortunately, C.G. died from neutropenic sepsis during the high-dose chemotherapy regimen.
- L41 ANSWER 4 OF 14 EMBASE COPYRIGHT 1997 ELSEVIER SCI. B.V.  
TI Ultrasonic resection of neuroblastomas: Long-term local tumor control.  
SO Archives of Surgery, (1995) 130/8 (905-908).  
ISSN: 0004-0010 CODEN: ARSUAX
- AB Objective: To evaluate the effectiveness of ultrasonic aspiration in achieving local tumor control of bulky neuroblastomas that are considered unresectable by conventional means. Design: A retrospective review of 12 patients undergoing ultrasonic aspiration as part of multimodal treatment protocols. Setting: A pediatric oncology referral center.

**Patients:** Twelve children with large neuroblastomas located in the abdomen (n=5), chest (n=5), and neck (n=2). Follow-up was 1.5 to 7.5 years. **Interventions:** **Ultrasonic aspiration** of the tumor was primary therapy (n=7) or followed initial chemotherapy (n=5). All patients underwent subsequent chemotherapy or autologous

**bone marrow transplantation.** Main

**Outcome Measures:** The incidences of residual disease and local recurrence were examined. **Results:** Tumor-related symptoms were effectively relieved in all 12 patients. Recurrent local disease led to death in two. One patient died of distant metastases.

**Conclusions:** **Ultrasonic aspiration** minimized blood loss and did not cause damage to adjacent organs. It provided nearly complete tumor resection, enhanced the effectiveness of chemotherapy protocols, and decreased the need for supportive care.

**Ultrasonic aspiration** is a safe and effective method for obtaining local control of large neuroblastomas.

- L41 ANSWER 5 OF 14 EMBASE COPYRIGHT 1997 ELSEVIER SCI. B.V.  
 TI Needle liver biopsy in thalassaemia: Analyses of diagnostic accuracy and safety in 1184 consecutive biopsies.  
 SO British Journal of Haematology, (1995) 89/4 (757-761).  
 ISSN: 0007-1048 CODEN: BJHEAL  
 AB We report the reliability and safety of percutaneous liver biopsy in the evaluation of hepatic iron loading and histology in patients with homozygous .beta.-thalassaemia prior to and in serial biopsies following allogeneic bone marrow transplantation for this disorder, 501 thalassaemic patients aged 11 +/- 45 years (range 1-32 years) underwent 1184 consecutive percutaneous liver biopsies without ultrasound guidance. Overall, 81% of biopsies were evaluable for histological examination and grading of iron. The adequacy of liver biopsy specimens increased with patient age: evaluable specimens were obtained in 73% of patients <5 years of age and in 86% of samples in patients aged >15 years. The degree of iron overload and fibrosis in each biopsy was reported separately by at least two pathologists who did not know the clinical status of each patient. In 103 biopsies, iron grade by light microscopy corresponded to an iron concentration varying between a mean of 32.46 +/- 14 .mu.mol/g dry weight liver tissue for iron stores graded by light microscopy as absent to 417.6 +/- 150 .mu.mol/g dry weight liver tissue for stores graded as severe. The fibrosis score of multiple samples of liver obtained at autopsy within 100d of the percutaneous biopsy in 41 patients who died following BMT correlated perfectly with that of the first sample in >60% biopsies; in most of the discordant cases fibrosis had been underestimated in the percutaneous biopsy. Liver biopsy demonstrated evidence of chronic hepatitis in 30% of patients with normal transaminase and in 57% of patients with transaminase within twice the normal range. Liver biopsy was complicated in six patients (0.5%) by haemoperitoneum, periocholecystic haematoma, kidney haematoma, or bile peritonitis; no complication was fatal. These data demonstrate that percutaneous liver biopsy provides reliable

information regarding liver iron and histology in homozygous .beta.-thalassaemia with an extremely low risk of complications.

- L41 ANSWER 6 OF 14 EMBASE COPYRIGHT 1997 ELSEVIER SCI. B.V.  
 TI Papillary thyroid carcinoma after total body irradiation.  
 SO ARCH. DIS. CHILD., (1994) 71/3 (256-258).  
 ISSN: 0003-9888 CODEN: ADCHAK  
 AB Two children developed papillary thyroid carcinoma after allogeneic **bone marrow transplantation (BMT)** probably due to radiotherapy during remission and pretransplantation conditioning. Establishing a relationship between the cellular thyroid stimulating hormone (TSH) effect and development of carcinoma in cases with high serum TSH concentrations is difficult. After BMT, patients should be regularly followed up with thyroid **ultrasound** and, when nodularity is found, fine needle **aspiration** and/or open biopsy are recommended.
- L41 ANSWER 7 OF 14 EMBASE COPYRIGHT 1997 ELSEVIER SCI. B.V.  
 TI Infected urachal cyst with symptomatic thrombocytopenic purpura: A case report.  
 SO NISHINIHON J. UROL., (1994) 56/8 (869-873).  
 ISSN: 0029-0726 CODEN: NHJUAR  
 AB We report the first case of infected urachal cyst with symptomatic thrombocytopenic purpura. A 57-year-old woman complained of miction pain, urinary frequency, gross hematuria, lower abdominal pain and bleeding of the gums. She was found to have petechia and purpura in the extremities after admission to our hospital. Physical examination revealed a large tender area in the lower abdomen and muscular defense. Laboratory examination showed severe thrombocytopenia ( $< 1000/\text{mm}^3$ ). **Ultrasound** scan and CT scan confirmed a heterogenous cystic lesion about 3 cm in diameter extending from the navel to the dome of the bladder. She had increased numbers of megakaryocytes in her **bone marrow**. After undergoing removal of the urachal cyst combined with administration of platelet transfusion and corticosteroid, her platelet count rose to  $70 \times 10^4/\text{mm}^3$  at 7 postoperative days.
- L41 ANSWER 8 OF 14 EMBASE COPYRIGHT 1997 ELSEVIER SCI. B.V.  
 TI Role of magnetic resonance imaging in the evaluation of the hydroxyapatite orbital implant.  
 SO OPHTHALMOLOGY, (1992) 99/5 (824-830).  
 ISSN: 0161-6420 CODEN: OPHTDG  
 AB The role of magnetic resonance imaging (MRI) in the assessment of fibrovascular ingrowth in the integrated hydroxyapatite orbital implant is evaluated. Fifteen patients who underwent **enucleation** and placement of a hydroxyapatite orbital implant were evaluated for degree of implant vascularity with gadolinium-DPTA-enhanced MRI with surface coil before drilling the implant. On T1-weighted images, the hydroxyapatite sphere appeared with intermediate signal. After gadolinium-DPTA administration, all



patients showed an enhancement in the implant consistent with the presence of fibrovascular ingrowth. The enhancement was most notable in the peripheral portions of the sphere and was seen as early as 5 months after implantation. Comparison of gadolinium-DPTA-enhanced MRI with contrast-enhanced computed tomography, ultrasonography, and color Doppler imaging suggests that these latter techniques are not as helpful in the detection of the fibrovascular tissue in the orbital implant. Bone scan, a technique used by many surgeons, demonstrates fibrovascular ingrowth, but it is limited by its one-dimensional low-resolution image. Because of its three-dimensional capability and its highest resolution, contrast-enhanced MRI with surface coil appears to be the best imaging method for evaluating the hydroxyapatite orbital implant and its fibrovascular ingrowth.

- L41 ANSWER 9 OF 14 EMBASE COPYRIGHT 1997 ELSEVIER SCI. B.V.  
 TI A newly recognized fastidious gram-negative pathogen as a cause of fever and bacteremia.  
 SO NEW ENGL. J. MED., (1990) 323/23 (1587-1593).  
 ISSN: 0028-4793 CODEN: NEJMAG  
 AB Background. We identified a motile, curved, gram-negative bacillus as the cause of persistent fever and bacteremia in two patients with symptomatic human immunodeficiency virus infection. The same organism was subsequently recovered from a bone marrow-transplant recipient with septicemia and from two immunocompetent persons with week-long febrile illnesses. All the patients recovered after antimicrobial therapy. Methods and Results. Primary cultures of blood processed by centrifugation after blood-cell lysis yielded adherent, white, iridescent, morphologically heterogeneous colonies in 5 to 15 days. Subcultures grew in four days on chocolate, charcoal-yeast extract, or blood agar. The organisms stained weakly with safranin and were not acidfast. Fluorescent-antibody tests for legionella and francisella were negative. Biochemical reactivity was minimal and difficult to ascertain. Agar-dilution testing revealed in vitro susceptibility to most antimicrobial agents tested. The cellular fatty acid composition of the isolates was similar, resembling that of Rochalimaea quintana or brucella species, but not Helicobacter pylori or species of campylobacter or legionella. As resolved by gel electrophoresis, cell-membrane preparations of all isolates contained similar proteins, with patterns that different from that of R. quintana. Patterns of digestion of DNA from all isolates by EcoRV restriction endonuclease were virtually identical and also differed from that of R. quintana. On immunodiffusion, serum from one convalescent patient produced a line of identity with sonicates of all five isolates. Conclusions. This pathogen may have been unidentified until now because of its slow growth, broad susceptibility to antimicrobial agents, and possible requirement of blood-cell lysis for recovery in culture. It should be sought as a cause of unexplained fever, especially in persons with defective cell-mediated immunity.

- L41 ANSWER 10 OF 14 EMBASE COPYRIGHT 1997 ELSEVIER SCI. B.V.  
TI Antibody response to Staphylococcus aureus surface proteins in rabbits with persistent osteomyelitis after treatment with demineralized bone implants.  
SO INFECT. IMMUN., (1989) 57/2 (404-412).  
ISSN: 0019-9567 CODEN: INFIBR  
AB A rabbit model was used to study the effect of allogeneic demineralized bone powder (DBP) implants on the persistence of Staphylococcus aureus osteomyelitis. Thirty-one rabbits with chronic osteomyelitis of the tibia established by day 21, were started on systemic antibiotics followed by either no additional treatment or debridement plus either DBP (with or without supplemental antibiotics) or supplemental antibiotics only. On day 21, cultures showed a mean of  $2 \times 10^4$  CFU/mg of debrided osseous material. By day 70, the treatment most effective in clearing infection was found in animals treated with supplemental antibiotics only (mean of  $142 \pm 116$  CFU/mg). In contrast, infection persisted at a 7- to 10-fold-higher level in animals receiving DBP with and without supplemental antibiotics; these results suggest that DBP contributed to persistence of infection. Longitudinal sera were tested against staphylococcal sonic extracts by immunoblot. Detection of numerous probe-positive bands indicated complex but remarkably similar antibody responses among infected animals. Antibodies attached directly to the cell surfaces of staphylococci as shown by immunogold and blocked the binding of organisms of HEP-2 and human fetal lung cells in a radioadherence assay. Antibodies could be absorbed out by intact organisms and were unreactive by immunoblot against antigens derived from cells pretreated with pronase, proteinase K, or lysostaphin. These results indicate that the major response was directed against staphylococcal cell surface proteins. Surprisingly, only one major band (molecular weight, approx. 12,000) was detected when a homologous in vivo antigen preparation was studied by immunoblot. Antibody reactive against this peptide did not appear to react with staphylococci grown in vitro.
- L41 ANSWER 11 OF 14 EMBASE COPYRIGHT 1997 ELSEVIER SCI. B.V.  
TI Extraction of leukemia associated antigen (LAA) and active specific immunization with LAA in acute leukemia.  
SO NAGOYA J. MED. SCI., (1980) 42/3-4 (55-67).  
CODEN: NJMSAG  
AB Leukemia associated antigen (LAA) was prepared from leukemia cells, using hypotonic lysis and low frequency sonications, followed by diethylaminoethyl (DEAE) column chromatography. Four protein peaks were eluted by stepwise introduction of increased concentration of NaCl solutions. With running on polyacrylamide gel electrophoresis (PAGE), unique bands which were not present in extracts of remission bone marrow, appeared in eluates of higher mol NaCl solution. These eluates produced positive blastogenic response when incubated with

autologous remission lymphocytes. Active specific immunization with pooled allogeneic LAA was performed in 14 adult AML patients in complete remission. Immunization was done weekly for 3 weeks and immunological studies (measurement of in vitro lymphocyte blastogenic responses and delayed hypersensitivity skin reactions) were done weekly for 5 weeks. 17 out of 14 patients showed increased blastogenic responses to LAA after immunization, and 9 out of 10 studied showed increased blastogenic responses to irradiated autologous leukemia cells. Significant increases in blastogenic responses to both LAA and autologous leukemia cells were noticed on day 22 ( $p < 0.05$ ). The increase of blastogenic responses seems to be higher among the patients whose length of remission was over 12 months at the time of immunization. There was no overall significant difference between blastogenic responses in autologous serum or pooled AB(+) serum. Increased skin test reactivity to LAA after immunization was seen in 7 out of 14 patients. Those patients with an initially weak reaction showed increased reactivity after immunization. There was no correlation between blastogenic responses and skin test reactivity.

- L41 ANSWER 12 OF 14 EMBASE COPYRIGHT 1997 ELSEVIER SCI. B.V.  
 TI Osteopoietin - Humoral induction factor in osteogenesis.  
 SO J. PERIODONTOL., (1980) 51/4 (185-189).  
 CODEN: JOPRAJ
- AB A heat-stable, glycoprotein-like material, osteopoietin, produced during bone marrow regeneration, has been shown to induce bone formation when implanted in the rat eye. The material was separated by ultrasonic treatment or by acid buffer (pH 3-5) from sponges implanted in the marrow. The extracted material free of bone or cell solids, induced bone formation in the anterior eye chamber of the rat, whereas the cell solids and control sponges similarly implanted did not.
- L41 ANSWER 13 OF 14 EMBASE COPYRIGHT 1997 ELSEVIER SCI. B.V.  
 TI Studies on ultrasonic removal of implants and the effect of ultrasound on bone.  
 SO ACTA ORTHOP. BELG., (1979) 45/5 (595-602).  
 CODEN: AOEAF
- AB As it is possible to vibrate ultrasonically porous metal plugs out of bone, a study has been conducted to determine the destructive effect of ultrasound on living bone, and to determine whether or not large implants can be ultrasonically loosened. It has been found that energy levels of 100 watts produced localized bone and marrow disruption with little tendency to spread. However, energy levels of 1000 watts were insufficient to loosen large implants. It is concluded that at present, ultrasonics is not a suitable method for removing large implants from bone.
- L41 ANSWER 14 OF 14 EMBASE COPYRIGHT 1997 ELSEVIER SCI. B.V.

- TI [Possibilities for use of ultrasonic instruments in endoprosthesis replacement?].  
MOGLICHKEITEN DER ANWENDUNG VON ULTRASCHALLWERKZEUG BEI ENDOPROTHESENWECHSEL.
- SO CHIRURG, (1979) 50/4 (257-261).  
CODEN: CHIRAS
- AB In joint replacement surgery an exchange of endoprosthesis is technically most difficult, time consuming, and extremely unpleasant for the patient. Removal of the implant without damaging the bone entails many problems. Experience has shown that, in addition to the normal operative technique, the ultrasonic method may be very helpful. Ultrasonic implements that melt thermoplastic implants facilitate the removal of those implants (e.g., polymethylmethacrylate, polyethylene), protect the tissue, and save time. This method is not an alternative to the normal operative technique, but an additional help.
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- L42 ANSWER 1 OF 35 EMBASE COPYRIGHT 1997 ELSEVIER SCI. B.V.  
TI Bone marrow transplantation in children: Imaging assessment of complications.
- L42 ANSWER 2 OF 35 EMBASE COPYRIGHT 1997 ELSEVIER SCI. B.V.  
TI Biologic agents in fracture repair.
- L42 ANSWER 3 OF 35 EMBASE COPYRIGHT 1997 ELSEVIER SCI. B.V.  
TI In-utero transplantation of parental CD34 haematopoietic progenitor cells in a patient with X-linked severe combined immunodeficiency (SCIDX1).
- L42 ANSWER 4 OF 35 EMBASE COPYRIGHT 1997 ELSEVIER SCI. B.V.  
TI [Preliminary results in the transplantation of allogeneic vascularized femoral diaphyses under immunosuppression].  
VORLAUFIGE ERGEBNISSE DER TRANSPLANTATION ALLOGENER GEFASSGESTIELTER FEMURDIAPHYSEN UNTER IMMUNSUPPRESSION.
- L42 ANSWER 5 OF 35 EMBASE COPYRIGHT 1997 ELSEVIER SCI. B.V.  
TI Absence of the posterior tibial artery: Implications for free transplants of the fibula.
- L42 ANSWER 6 OF 35 EMBASE COPYRIGHT 1997 ELSEVIER SCI. B.V.  
TI [Re-establishment of speech and swallowing function following extensive tumor resections in the head and neck].  
WIEDERHERSTELLUNG DER SPRECH- UND KAUFUNKTION NACH AUSGEDEHNTEN TUMORRESEKTIONEN IM KIEFER-GESICHTSBEREICH.
- L42 ANSWER 7 OF 35 EMBASE COPYRIGHT 1997 ELSEVIER SCI. B.V.  
TI Peripheral primitive neuroectodermal tumors, CT and MRI evaluation.

- L42 ANSWER 8 OF 35 EMBASE COPYRIGHT 1997 ELSEVIER SCI. B.V.  
TI Hodgkin's disease: The next decade.
- L42 ANSWER 9 OF 35 EMBASE COPYRIGHT 1997 ELSEVIER SCI. B.V.  
TI Outcome of extensive evaluation before adjuvant therapy in women with breast cancer and 10 or more positive axillary lymph nodes.
- L42 ANSWER 10 OF 35 EMBASE COPYRIGHT 1997 ELSEVIER SCI. B.V.  
TI Reconstruction with tenodesis in an adult flatfoot model. A biomechanical evaluation of four methods.
- L42 ANSWER 11 OF 35 EMBASE COPYRIGHT 1997 ELSEVIER SCI. B.V.  
TI Measurements of long-term periprosthetic bone changes around a unique composite implant.
- L42 ANSWER 12 OF 35 EMBASE COPYRIGHT 1997 ELSEVIER SCI. B.V.  
TI Hydroxyapatite-alumina composites and bone-bonding.
- L42 ANSWER 13 OF 35 EMBASE COPYRIGHT 1997 ELSEVIER SCI. B.V.  
TI The effects of ultrasonic stimulation on DP-bioglass bone substitute.
- L42 ANSWER 14 OF 35 EMBASE COPYRIGHT 1997 ELSEVIER SCI. B.V.  
TI Ultrasound evaluation of hepatic and splenic microabscesses in the immunocompromised patient: Sonographic patterns, differential diagnosis, and follow-up.
- L42 ANSWER 15 OF 35 EMBASE COPYRIGHT 1997 ELSEVIER SCI. B.V.  
TI Carotido-brachial artery bypass for radiation induced injury of the subclavian artery. The value of a lateral mid-arm approach.
- L42 ANSWER 16 OF 35 EMBASE COPYRIGHT 1997 ELSEVIER SCI. B.V.  
TI Prospective study of pituitary-gonadal function to evaluate short-term effects of ablative chemotherapy or total body irradiation with autologous or allogenic marrow transplantation in post-menarcheal female patients.
- L42 ANSWER 17 OF 35 EMBASE COPYRIGHT 1997 ELSEVIER SCI. B.V.  
TI Ultrasonically determined elasticity and cortical density in canine femora after hip arthroplasty.
- L42 ANSWER 18 OF 35 EMBASE COPYRIGHT 1997 ELSEVIER SCI. B.V.  
TI Pathogenesis and prophylaxis of circulatory reactions during total hip replacement.
- L42 ANSWER 19 OF 35 EMBASE COPYRIGHT 1997 ELSEVIER SCI. B.V.  
TI Definition of a subset of human peripheral blood mononuclear cells that are permissive to human cytomegalovirus infection.
- L42 ANSWER 20 OF 35 EMBASE COPYRIGHT 1997 ELSEVIER SCI. B.V.  
TI Venocclusive disease of the liver: Prospective study of US

evaluation.

- L42 ANSWER 21 OF 35 EMBASE COPYRIGHT 1997 ELSEVIER SCI. B.V.  
 TI Venooocclusive liver disease after **bone marrow transplantation**: Findings at duplex sonography.
- L42 ANSWER 22 OF 35 EMBASE COPYRIGHT 1997 ELSEVIER SCI. B.V.  
 TI Chronic systemic candidiasis in acute leukemia.
- L42 ANSWER 23 OF 35 EMBASE COPYRIGHT 1997 ELSEVIER SCI. B.V.  
 TI Evaluation of the calcium phosphate ceramic implant by non-invasive techniques.
- L42 ANSWER 24 OF 35 EMBASE COPYRIGHT 1997 ELSEVIER SCI. B.V.  
 TI Gaucher's disease: Plain radiography, US, CT and MR diagnosis of lungs, bone and liver lesions.
- L42 ANSWER 25 OF 35 EMBASE COPYRIGHT 1997 ELSEVIER SCI. B.V.  
 TI Sports traumatology today: A review of common current sports injury problems.
- L42 ANSWER 26 OF 35 EMBASE COPYRIGHT 1997 ELSEVIER SCI. B.V.  
 TI The evaluation of cortical bone remodeling with a new **ultrasonic** technique.
- L42 ANSWER 27 OF 35 EMBASE COPYRIGHT 1997 ELSEVIER SCI. B.V.  
 TI The evaluation of **bone** remodeling about orthopaedic **implants** with **ultrasound**.
- L42 ANSWER 28 OF 35 EMBASE COPYRIGHT 1997 ELSEVIER SCI. B.V.  
 TI [Ultrasound control of bone healing after spongiosa substance plasty- A supportive method to X-ray measurement].  
 SONOGRAPHISCHE KONTROLLE VON SPONGIOSATRANSPLANTATEN - UNTERSTUTZUNG DER RADIOLOGISCHEN DIAGNOSTIK.
- L42 ANSWER 29 OF 35 EMBASE COPYRIGHT 1997 ELSEVIER SCI. B.V.  
 TI Continuous measurement of biparietal distance in the intact and hypophysectomized fetal sheep using **ultrasound**.
- L42 ANSWER 30 OF 35 EMBASE COPYRIGHT 1997 ELSEVIER SCI. B.V.  
 TI In utero **bone marrow transplantation** of fetal baboons with mismatched adult marrow: Initial observations.
- L42 ANSWER 31 OF 35 EMBASE COPYRIGHT 1997 ELSEVIER SCI. B.V.  
 TI [Thermal effects of electrotherapeutic apparatus after metal implantation].  
 DIE THERMISCHE WIRKUNG ELEKTROTHERAPEUTISCHER GERATE NACH METALLIMPLANTATION.
- L42 ANSWER 32 OF 35 EMBASE COPYRIGHT 1997 ELSEVIER SCI. B.V.  
 TI Roentgenographic changes after **ultrasonic** discolidectomy

and bone plasty of the intervertebral defect.

L42 ANSWER 33 OF 35 EMBASE COPYRIGHT 1997 ELSEVIER SCI. B.V.

TI Cranioplasty with formalin-treated homografts using  
ultrasonic instruments.

L42 ANSWER 34 OF 35 EMBASE COPYRIGHT 1997 ELSEVIER SCI. B.V.

TI [Healing processes of ultrasonically welded bone fractures  
in rabbits].

HEILUNGSVORGANGE AN ULTRASCHALLGESCHWEISSTEN KNOCHENFRAKTUREN DES  
KANINCHENS.

L42 ANSWER 35 OF 35 EMBASE COPYRIGHT 1997 ELSEVIER SCI. B.V.

TI Obstructive jaundice after bone marrow  
transplantation.

=> d 142 2,13,16,18,26,27,28,30,32,33,34,35 ti so ab

L42 ANSWER 2 OF 35 EMBASE COPYRIGHT 1997 ELSEVIER SCI. B.V.

TI Biologic agents in fracture repair.

SO Current Opinion in Orthopaedics, (1996) 7/6 (43-49).

Refs: 40

ISSN: 1041-9918 CODEN: COORE

AB Articles and publications that discuss augmentation of fracture  
repair are reviewed herein. Both biologic and biophysical adjuncts  
to bone healing have been reported. The family of bone morphogenetic  
proteins has been successfully used in long-bone defects and spine  
fusion models. The growth factors appear to have a supportive role  
in bone healing. There has been growing interest in defining those  
factors that inhibit bone repair, such as smoking, and advancing the  
therapeutic interventions that will enhance bone stock.

L42 ANSWER 13 OF 35 EMBASE COPYRIGHT 1997 ELSEVIER SCI. B.V.

TI The effects of ultrasonic stimulation on DP-bioglass bone  
substitute.

SO Medical Engineering and Physics, (1995) 17/1 (20-26).

ISSN: 1350-4533 CODEN: MEPHEO

AB In previous studies, DP-bioglass showed good biocompatibility and  
can form a chemical bond with natural bone. After implementation in  
the rabbit femur condyle for 32 weeks, DP-bioglass gradually  
biodegraded and osteocytes grew into the material. In this study, an  
attempt has been made to utilize low intensity pulsed

ultrasound to speed up the bone regeneration rate and  
DP-bioglass absorption rate when the DP-bioglass is implanted into  
the rabbit femur condyle as a bone substitute. The fundamental  
parameters of the ultrasound used were 1.5 MHz frequency,  
0.5 W cm<sup>-2</sup> intensity, on-off ratio 1:1 and 2 ms for the on-off time  
interval. The stimulation, in all cases, was started 24 h after the  
operations by applying the transducer to the skin using DIR  
ultrasound jelly as a coupling medium. The evaluation of the  
progress of bone regeneration and the material's biodegradable rate

were conducted by histological examination and by measurements of the areas of regenerated bone, pores and DP-bioglass made with a planimeter: It was found that low intensity pulsed **ultrasound** had a profound effect on the rate both of bone regeneration and DP-bioglass bioabsorption in this rabbit model and that its mechanism of the action may be via an electromechanical kinetic effect on the cell membrane interfaces.

- L42 ANSWER 16 OF 35 EMBASE COPYRIGHT 1997 ELSEVIER SCI. B.V.  
 TI Prospective study of pituitary-gonadal function to evaluate short-term effects of ablative chemotherapy or total body irradiation with autologous or allogenic **marrow transplantation** in post-menarcheal female patients.  
 SO BONE MARROW TRANSPLANT., (1994) 13/5 (511-517).  
 ISSN: 0268-3369 CODEN: BMTRE  
 AB Pituitary-gonadal (P-G) function was evaluated 0-3 months before and 3-4 months after **bone marrow transplantation** (BMT) in 15 post-menarcheal females aged 17-30 (21.6  $\pm$  0.34) years with haematological malignancies. All patients had evidence of gonadal insufficiency prior to BMT in that their basal and human menopausal gonadotrophin (HMG)-stimulated oestradiol (E2) levels were significantly lower than those of control subjects. The patients also had markedly higher basal FSH levels and exaggerated responses to 100  $\mu$ g iv gonadotrophin release hormone bolus compared with those of control subjects. However, the conditioning regimens employed prior to BMT, i.e. cytotoxic chemotherapy (CT) and total body irradiation (TBI), acting either singly or in combination, caused further ovarian damage. As a result, their gonadotrophins rose further into the menopausal range. Their oestradiol secretion diminished and ovaries became almost unresponsive 3-4 months after BMT. Pelvic **ultrasound** undertaken in 5 patients before and after BMT demonstrated a reduction in ovarian size associated with follicular depletion. All patients developed menopausal symptoms and became amenorrhoeic during this period. Contrary to expectation, the hormonal changes occurring acutely were similar in patients undergoing radiation-based regimens and those conditioned with high-dose chemotherapy alone. Also, the severity of ovarian dysfunction appeared independent of age at transplantation, the nature of the conditioning-regimen or the type of transplant. Gonadotrophic, thyrotrophic, lactotrophic and adrenocorticotrophic secretions were unaffected. These data indicate that the ovary suffers an acute insult during short-term chemotherapy but the anterior pituitary gland retains its trophic hormone reserve and secretory capacity.
- L42 ANSWER 18 OF 35 EMBASE COPYRIGHT 1997 ELSEVIER SCI. B.V.  
 TI Pathogenesis and prophylaxis of circulatory reactions during total hip replacement.  
 SO ARCH. ORTHOP. TRAUMA SURG., (1993) 112/6 (260-265).  
 ISSN: 0936-8051 CODEN: AOTSEF  
 AB Circulatory reactions such as a drop in blood pressure, bradycardia,



cardiac arrest, and even intraoperative death after insertion of the stem are well known events during total hip replacement. The present paper reports bone marrow intravasation after rise of intramedullary pressure in the femoral cavity during insertion of hip prostheses, demonstrated by intraoperative transesophageal echocardiography. In an animal study, the ultrasound echoes were identified as 'mixed emboli' consisting of a core of bone marrow surrounded by thrombus. These results suggested the use of an intramedullary plug to restrict the intravasation of bone marrow. A trial was undertaken in 60 total hip replacement operations. The first 30 were performed using the conventional technique without an intramedullary plug. In a second series of 30 operations, an intramedullary plug made of cancellous bone taken from the resected femoral head was placed 2 cm below the expected location of the tip of the stem. The cement was applied from distal to proximal by syringe. After implantation of the prosthesis using the conventional technique, a significant drop in blood pressure was observed. In the second series, the drop in blood pressure did not occur. In conclusion, it was demonstrated that effective venting of the bone marrow cavity by a bore hole, and avoidance of compression of the bonemarrow-filled distal femoral cavity by using a plug, results in effective prevention of circulatory reactions: no drop in blood pressure occurred. The use of an intramedullary plug is discussed and recommended.

L42 ANSWER 26 OF 35 EMBASE COPYRIGHT 1997 ELSEVIER SCI. B.V.

TI The evaluation of cortical bone remodeling with a new ultrasonic technique.

SO IEEE TRANS. BIOMED. ENG., (1990) 37/5 (433-441).  
ISSN: 0018-9294 CODEN: IEBEAX

AB Total hip arthroplasty causes biomechanical changes in the normal femur including a redistribution and concentration of stress. These mechanical alterations in the femur cause local remodeling and resorption that affect the geometry and mechanical properties of the bone. Three complementary techniques were used to study the local adaptive remodeling of bone due to prosthesis implantation. A graphics package was used to obtain section geometrical information, an ultrasonic wave propagation technique to determine elastic properties, and a new scanning acoustic microscope (SAM) to map the acoustic impedance profile of each section. The effects of the implantation of two different types of hip prostheses were investigated, an uncemented bipolar prosthesis with an Austin-Moore type stem and a cemented Charnley prosthesis. Prosthesis implantation resulted in an increase in cortical area and mediolateral diameter and a decrease in antero-posterior diameter. Both prostheses had a detrimental effect on local elastic properties as determined by acoustic velocity measurements. Finally, the SAM system provided information about local inhomogeneities in bone properties not obtainable by any other means. The acoustic impedance maps high-lighted bone resorption and bone remodeling on a microstructural level.

- L42 ANSWER 27 OF 35 EMBASE COPYRIGHT 1997 ELSEVIER SCI. B.V.  
 TI The evaluation of **bone remodeling** about orthopaedic  
**implants with ultrasound.**  
 SO J. ORTHOP. RES., (1989) 7/4 (607-611).  
 ISSN: 0736-0266 CODEN: JOREDR  
 AB Total hip arthroplasty causes biomechanical changes in the normal femur, including a redistribution and concentration of stress. These mechanical alterations in the femur cause local remodeling and resorption that affect the geometry and mechanical properties of the bone. Two complementary **ultrasonic** techniques were used to study the local adaptive remodeling of **bone** due to **prosthesis implantation**. An **ultrasonic** wave propagation technique was used to determine elastic properties and a new scanning acoustic microscope (SAM) mapped the acoustic impedance profile of each section. The effects of the implantation of two types of hip prostheses, an uncemented bipolar prosthesis with an Austin-Moore type stem had a cemented Charnley prosthesis, were investigated. Both prostheses had a detrimental effect on local elastic properties as determined by acoustic velocity measurements. The SAM system provided information about local inhomogeneities in bone properties not obtainable by any other means. The acoustic impedance maps highlighted bone resorption and bone remodeling on a microstructural level.
- L42 ANSWER 28 OF 35 EMBASE COPYRIGHT 1997 ELSEVIER SCI. B.V.  
 TI [**Ultrasound control of bone healing** after spongiosa substance plasty- A supportive method to X-ray measurement].  
 SONOGRAPHISCHE KONTROLLE VON SPONGIOSATRANSPLANTATEN - UNTERSTUTZUNG DER RADIOLOGISCHEN DIAGNOSTIK.  
 SO LANGENBECKS ARCH. CHIR., (1989) 374/1 (39-45).  
 ISSN: 0023-8236 CODEN: LAACBS  
 AB The x-ray control is standard for spongiosa substance plasty and shows three periods of healing. In the first two periods (vascularisation and osteogenic reaction) the examination is restricted. **Ultrasound control** is a simple handling method although a hyporesonance or non-resonance of calcareous bone exists. The follow-ups concerning spongiosa substance plasty are made by **ultrasound** and x-ray control, and more exact assessments are possible. Advantages and disadvantages of **ultrasound** in extremities are discussed.
- L42 ANSWER 30 OF 35 EMBASE COPYRIGHT 1997 ELSEVIER SCI. B.V.  
 TI In utero **bone marrow transplantation**  
 of fetal baboons with mismatched adult marrow: Initial observations.  
 SO BONE MARROW TRANSPLANT., (1988) 3/2 (141-147).  
 ISSN: 0268-3369 CODEN: BMTRE  
 AB Recent advances in prenatal diagnoses of sickle cell anemia and thalassemia permit early identification of affected fetuses. However, the only intervention possible to date is abortion of the affected fetuses. **Transplantation of normal marrow** into fetuses in utero could correct these life-threatening

disorders, but to accomplish this techniques must be developed for fetal transplantation in man. Therefore, we have transplanted fetal baboons with mismatched adult baboon bone marrow from donors that differed at the glucose phosphate isomerase locus. Twenty-two fetuses between 60 and 160 days of gestation (term gestation is 182 days) were transplanted intraperitoneally with 109 marrow mononuclear cells/kg body weight using an ultrasonic technique. No immunosuppressive or preparative regimen was given prior to or after transplantation, and all fetuses tolerated the procedure well. One month after transplantation fetal blood samples were obtained to assess chimerism. Three chimeras were detected among 10 fetuses transplanted at 80 days' gestation, and no chimeras were detected in fetuses greater than 80 days' gestation at the time of transplantation. All chimeras died in utero during the third trimester of pregnancy: one of an intrauterine infection at 160 days' gestation, one at 135 days' gestation and one at 145 days' gestation. In contrast, the other 19 non-chimeric fetuses survived. These data suggest: (1) in utero fetal bone marrow transplantation is technically feasible in primates; (2) that allogeneic adult bone marrow can engraft and persist for at least 1 month in fetal baboons transplanted at 80 days of gestation; and (3) that delineation of the causes for loss of fetal chimeras should prove valuable in assessing the therapeutic potential for in utero bone marrow transplantation in man.

- L42 ANSWER 32 OF 35 EMBASE COPYRIGHT 1997 ELSEVIER SCI. B.V.  
 TI Roentgenographic changes after ultrasonic discectomy and bone plasty of the intervertebral defect.  
 SO ORTOP. TRAUMATOL. PROTEZ., (1982) No. 11 (21-25).  
 CODEN: ORTPA7
- AB Studies of processes of the reparative regeneration of the bone tissue after ultrasonic discectomy and anterior spondylodesis with the compact-spongy allografts in experiment permitted to establish that the allograft undergoes resorption, which reaches its maximum by the 4th month. By this time the new bone tissue appeared, which substituted the allograft, with formation of bone block between the vertebral bodies towards the 10th month. Within terms up to 1 1/2 years in absolute immobility of the ankylosed vertebral bodies, the ankylosing may occur of the zygapophysial articulations and bone synostosis of transverse processes of the vertebrae. Clinical application of the ultrasonic discectomy allowed to obtain good results in 12 of 17 patients, and satisfactory ones in 5 patients.
- L42 ANSWER 33 OF 35 EMBASE COPYRIGHT 1997 ELSEVIER SCI. B.V.  
 TI Cranioplasty with formalin-treated homografts using ultrasonic instruments.  
 SO KHIRURGIYA (MOSCOW), (1980) 56/5 (105-107).  
 CODEN: KHIRAE

L42 ANSWER 34 OF 35 EMBASE COPYRIGHT 1997 ELSEVIER SCI. B.V.  
TI [Healing processes of ultrasonically welded bone fractures  
in rabbits].  
HEILUNGSVORGANGE AN ULTRASCHALLGESCHWEISSTEN KNOCHENFRAKTUREN DES  
KANINCHENS.  
SO EXP. PATHOL., (1978) 16/1-6 (102-108).  
CODEN: EXPTAX  
AB The aim of ultrasonic welding of bones is to attain a  
stable osteosynthesis between the ends of the fractures by  
application of a, under ultrasonic influence quickly  
polymerizing, plast monomer mixed with granular homologous bone  
particles. In this paper the healing process from the osteosynthesis  
attained by welding up to the organic healing of the fracture is  
investigated.

L42 ANSWER 35 OF 35 EMBASE COPYRIGHT 1997 ELSEVIER SCI. B.V.  
TI Obstructive jaundice after bone marrow  
transplantation.  
SO GASTROENTEROLOGY, (1977) 73/3 (565-569).  
CODEN: GASTAB  
AB Jaundice after bone marrow  
transplantation is usually a consequence of graft versus  
host disease. Reported is a patient, who presented with obstructive  
jaundice several months after a successful marrow  
allograft. Despite a benign bone marrow  
examination, abdominal ultrasound, upper gastrointestinal  
series, and endoscopic biopsy were utilized to diagnose recurrent  
leukemia at the pancreatic head and descending duodenum. The  
entities of graft versus host disease as related to jaundice, and  
gastrointestinal leukemia, in the presence of a 'remission' bone  
marrow, are reviewed.

=> file biosis

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CAS REGISTRY NUMBERS (R) LAST ADDED: 3 July 1997 (970703/UP)

=> d 140 1-29 ti

L40 ANSWER 1 OF 29 BIOSIS COPYRIGHT 1997 BIOSIS  
TI Effect of noninvasive low intensity ultrasound on bone  
growth into porous-coated implants.

L40 ANSWER 2 OF 29 BIOSIS COPYRIGHT 1997 BIOSIS

- TI In-utero transplantation of parental CD34 haematopoietic progenitor cells in a patient with X-linked severe combined immunodeficiency (SCIDXI).
- L40 ANSWER 3 OF 29 BIOSIS COPYRIGHT 1997 BIOSIS  
TI Outcome of extensive evaluation before adjuvant therapy in women with breast cancer and 10 or more positive axillary lymph nodes.
- L40 ANSWER 4 OF 29 BIOSIS COPYRIGHT 1997 BIOSIS  
TI Reconstruction with tenodesis in an adult flatfoot model. A biomechanical evaluation of four methods.
- L40 ANSWER 5 OF 29 BIOSIS COPYRIGHT 1997 BIOSIS  
TI Needle liver biopsy in thalassaemia: Analyses of diagnostic accuracy and safety in 1184 consecutive biopsies.
- L40 ANSWER 6 OF 29 BIOSIS COPYRIGHT 1997 BIOSIS  
TI Hydroxyapatite-alumina composites and bone-bonding.
- L40 ANSWER 7 OF 29 BIOSIS COPYRIGHT 1997 BIOSIS  
TI A Pseudo-Epidemic Involving Bone Allografts.
- L40 ANSWER 8 OF 29 BIOSIS COPYRIGHT 1997 BIOSIS  
TI **Ultrasound** evaluation of hepatic and splenic microabscesses in the immunocompromised patient: Sonographic patterns, differential diagnosis, and follow-up.
- L40 ANSWER 9 OF 29 BIOSIS COPYRIGHT 1997 BIOSIS  
TI Correlation of hepatic **ultrasound-Doppler** with liver biopsy findings in **bone marrow transplant** (BMT) patients with suspected veno-occlusive disease (VOD).
- L40 ANSWER 10 OF 29 BIOSIS COPYRIGHT 1997 BIOSIS  
TI Carotido-brachial artery bypass for radiation induced injury of the subclavian artery: The value of a lateral mid-arm approach.
- L40 ANSWER 11 OF 29 BIOSIS COPYRIGHT 1997 BIOSIS  
TI Sonographie des Knochens: Experimentelle und klinische Ergebnisse zur Verlaufskontrolle nach Frakturen und Spongiosatransplantationen; %+(Sonography of the bone: Experimental and clinical results of monitoring the course after fractures and spongy bone graft).
- L40 ANSWER 12 OF 29 BIOSIS COPYRIGHT 1997 BIOSIS  
TI Hepatic veno-occlusive disease (VOD) after **bone marrow transplantation** (BMT): Prospective hemodynamic study using Doppler **ultrasound**.
- L40 ANSWER 13 OF 29 BIOSIS COPYRIGHT 1997 BIOSIS  
TI Prospective study of pituitary-gonadal function to evaluate short-term effects of ablative chemotherapy or total body irradiation

with autologous or allogenic marrow transplantation  
in post-menarcheal female patients.

- L40 ANSWER 14 OF 29 BIOSIS COPYRIGHT 1997 BIOSIS  
TI Clinical evaluation of HTR polymer bone replacement  
grafts in human mandibular class II molar furcations.
- L40 ANSWER 15 OF 29 BIOSIS COPYRIGHT 1997 BIOSIS  
TI Ultrasonically determined elasticity and cortical density  
in canine femora after hip arthroplasty.
- L40 ANSWER 16 OF 29 BIOSIS COPYRIGHT 1997 BIOSIS  
TI DEFINITION OF A SUBSET OF HUMAN PERIPHERAL BLOOD MONONUCLEAR CELLS  
THAT ARE PERMISSIVE TO HUMAN CYTOMEGALOVIRUS INFECTION.
- L40 ANSWER 17 OF 29 BIOSIS COPYRIGHT 1997 BIOSIS  
TI VENOCCLUSIVE DISEASE OF THE LIVER PROSPECTIVE STUDY OF US EVALUATION.
- L40 ANSWER 18 OF 29 BIOSIS COPYRIGHT 1997 BIOSIS  
TI CHRONIC SYSTEMIC CANDIDIASIS IN ACUTE LEUKEMIA.  
07/646,519
- L40 ANSWER 19 OF 29 BIOSIS COPYRIGHT 1997 BIOSIS  
TI EVALUATION OF THE CALCIUM PHOSPHATE CERAMIC IMPLANT BY NON-INVASIVE  
TECHNIQUES.
- L40 ANSWER 20 OF 29 BIOSIS COPYRIGHT 1997 BIOSIS  
TI EFFECT OF AN IMPLANT OF TRENBOLONE ACETATE AND ESTRADIOL ON GROWTH  
FEED EFFICIENCY AND CARCASS COMPOSITION OF HOLSTEIN AND BEEF STEERS.
- L40 ANSWER 21 OF 29 BIOSIS COPYRIGHT 1997 BIOSIS  
TI ACALCULOUS CHOLECYSTITIS AFTER BONE MARROW  
TRANSPLANTATION IN ADULTS WITH ACUTE LEUKAEMIA CASE REPORT.
- L40 ANSWER 22 OF 29 BIOSIS COPYRIGHT 1997 BIOSIS  
TI FETAL MEDICINE ITS PRESENT STATUS AND FUTURE PROSPECTS.
- L40 ANSWER 23 OF 29 BIOSIS COPYRIGHT 1997 BIOSIS  
TI THE EVALUATION OF BONE REMODELING ABOUT ORTHOPEDIC  
IMPLANTS WITH ULTRASOUND.  
07/646,519
- L40 ANSWER 24 OF 29 BIOSIS COPYRIGHT 1997 BIOSIS  
TI CONTINUOUS MEASUREMENT OF BIPARIETAL DISTANCE IN THE INTACT AND  
HYPOPHYSECTOMIZED FETAL SHEEP USING ULTRASOUND.
- L40 ANSWER 25 OF 29 BIOSIS COPYRIGHT 1997 BIOSIS  
TI IN UTERO BONE MARROW TRANSPLANTATION OF  
FETAL BABOONS WITH MISMATCHED ADULT MARROW INITIAL OBSERVATIONS.
- L40 ANSWER 26 OF 29 BIOSIS COPYRIGHT 1997 BIOSIS  
TI ULTRASOUND FINDINGS IN GRAFT-VS.-HOST DISEASE FOLLOWING  
BONE MARROW TRANSPLANTATION.  
07/646,519  
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07/646,519  
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L40 ANSWER 27 OF 29 BIOSIS COPYRIGHT 1997 BIOSIS  
TI ENGINEERING CRITERIA FOR BIO MATERIALS SOME THOUGHTS ON IN-SITU MEASUREMENTS.

L40 ANSWER 28 OF 29 BIOSIS COPYRIGHT 1997 BIOSIS  
TI OBSTRUCTIVE JAUNDICE AFTER BONE MARROW TRANSPLANTATION.

L40 ANSWER 29 OF 29 BIOSIS COPYRIGHT 1997 BIOSIS  
TI ANTI TUMOR ACTIVITY OF ANAEROBIC CORYNEBACTERIUM ISOLATED FROM THE HUMAN BONE MARROW.

=> d 140 1,7,14,23 ti so ab

L40 ANSWER 1 OF 29 BIOSIS COPYRIGHT 1997 BIOSIS  
TI Effect of noninvasive low intensity ultrasound on bone growth into porous-coated implants.  
SO Journal of Orthopaedic Research 14 (6). 1996. 901-906. ISSN: 0736-0266  
AB Noninvasive low intensity ultrasound has been shown to be an effective means of accelerating bone fracture healing in both animal and clinical studies. An in vivo canine study was designed to determine if noninvasive low intensity ultrasound could influence the rate and extent of bone growth into porous-coated implants. Twenty-two pairs of fully porous transcortical implants were inserted bilaterally into the femora of 12 dogs. In each dog, one femur served as a control and the other was subjected to daily ultrasound stimulation for 2, 3, or 4 weeks. Overall, the ultrasound-stimulated implants demonstrated an 18% increase in bone ingrowth compared with their contralateral controls ( $p = 0.02$ ). Noninvasive low intensity ultrasound had its greatest effect in the first 2-3 weeks of stimulation. At 2 and 3 weeks, the ultrasound-stimulated implants showed 21 and 16% more ingrowth than their respective contralateral controls. Because noninvasive low intensity ultrasound had a positive effect on bone ingrowth in this experimental investigation, further research is suggested to assess the clinical potential for application to noncemented porous-coated total joint replacements.

L40 ANSWER 7 OF 29 BIOSIS COPYRIGHT 1997 BIOSIS  
TI A Pseudo-Epidemic Involving Bone Allografts.  
SO Infection Control and Hospital Epidemiology 15 (12). 1994. 757-758. ISSN: 0899-823X  
AB Preimplantation cultures of four sterile bone allograft specimens grew *Comomonas acidovorans* and *Pseudomonas* species. An epidemiological investigation, including molecular subtyping methods, revealed that the allograft specimens were contaminated in a microbiology laboratory sonicator water bath.

L40 ANSWER 14 OF 29 BIOSIS COPYRIGHT 1997 BIOSIS

TI Clinical evaluation of HTR polymer **bone** replacement **grafts** in human mandibular class II molar furcations.

SO Journal of Periodontology 65 (4). 1994. 342-349. ISSN: 0022-3492

AB A biocompatible microporous composite of PMMA (poly-methyl-methacrylate), PHEMA (poly-hydroxyl-ethyl-methacrylate), and calcium hydroxide (HTR) or autogenous osseous coagulum (AOC) **bone** replacement **grafts** were evaluated in 15 pairs of mandibular molar Class II furcations in 9 patients. Following initial preparation, full thickness flaps were raised to gain access to the furcations; mechanical hand and **ultrasonic** root and defect debridement and chemical (tetracycline) root preparation were performed; paired furcations in each patient were randomly grafted with either HTR or AOC; and the host flaps replaced or slightly coronally positioned. Weekly, then monthly, deplaquing was performed until surgical re-entry at 6 to 12 months. Both treatments improved the clinical status of the treated furcations. Direct clinical measurements demonstrated essentially equivalent clinical results with both **bone** replacement **graft** materials related to most hard and soft tissue changes in the furcations. Differences in favor of HTR were found for horizontal residual furcation depth (2.4 mm vs. 3.9 mm), horizontal furcation fill (1.9 mm vs. 0.8 mm), and percent horizontal furcation fill (44.4% vs. 17.1%) (all  $P$  ltoreq 0.05 paired  $t$  test). These favorable results with HTR polymer are similar to several reports with other graft materials and with GTR barriers, and suggest that HTR polymer may be a useful therapeutic adjunct in the clinical management of grade II mandibular molar furcations.

L40 ANSWER 23 OF 29 BIOSIS COPYRIGHT 1997 BIOSIS

TI THE EVALUATION OF **BONE** REMODELING ABOUT ORTHOPEDIC **IMPLANTS** WITH **ULTRASOUND**.

SO J ORTHOP RES 7 (4). 1989. 607-611. CODEN: JOREDR ISSN: 0736-0266

AB Total hip arthroplasty causes biomechanical changes in the normal femur, including a redistribution and concentration of stress. These mechanical alterations in the femur cause local remodeling and resorption that affect the geometry and mechanical properties of the bone. Two complementary **ultrasonic** techniques were used to study the local adaptive remodeling of **bone** due to prosthesis implantation. An **ultrasonic** wave propagation technique was used to determine elastic properties and a new scanning acoustic microscope (SAM) mapped the acoustic impedance profile of each section. The effects of the implantation of two types of hip prostheses, an uncemented bipolar prosthesis with an Austin-Moore type stem and a cemented Charnley prosthesis, were investigated. Both prostheses had a detrimental effect on local elastic properties as determined by acoustic velocity measurements. The SAM system provided information about local inhomogeneities in bone properties not obtainable by any other means. The acoustic impedance maps highlighted bone resorption and bone remodeling on a microstructural level.



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L53 ANSWER 1 OF 20 MEDLINE  
AN 97305279 MEDLINE  
TI [Embolism and intramedullary femoral surgery].  
Embolies et chirurgie femorale intra-medullaire.  
AU Barre J; Lepouse C; Segal P  
CS Departement d'Anesthesie-Reanimation, CHU Reims, Hopital Maison  
Blanche, Reims.  
SO REVUE DE CHIRURGIE ORTHOPEDIQUE ET REPARATRICE DE L APPAREIL MOTEUR,  
(1997) 83 (1) 9-21.  
Journal code: RMP. ISSN: 0035-1040; JUL 1997  
CY France  
DT Journal; Article; (JOURNAL ARTICLE)  
LA French  
FS Priority Journals  
EM 9708  
EW 19970801  
AB All intramedullary femoral surgery entails embolic phenomena which  
explain peroperative collapses formally known as **bone**  
**cement implantation syndrome**, as well as perioperative fat  
embolism syndromes. Locally, the bigger the cavity is, the higher  
the number of accidents: 2.5-5 per cent for GUEPAR hinged-knee  
prosthesis, 1.75 per cent for total hip arthroplasty with long stem,  
and 0.1 per cent during classic THA with cement limited to the  
metaphysis. Anomalies in bone vascularization also increase risk:  
10.5-13 per cent during prophylactic nailing for shaft metastases,  
1-11.5 per cent during hemiarthroplasty cemented in osteoporotic  
bone of femoral neck fractures, and only 0.1 per cent during THA  
implanted because of arthrosis. Not only cement, but also rods,  
reamers, nails, implants, **ultrasonic tool for cement**  
**extraction**, increase the pressure inside the cavity.  
Methylmethacrylate is no longer the only incriminated factor, even  
if it is responsible for a major part of the compressive load. The  
intensity and duration of the pressure are correlated with the  
number of embolic phenomena and with measured cardiopulmonary  
parameters. The intracavity fat content is expelled (an empty  
cavity, as in THA revision, does not lead to embolic phenomena).

Then filters through the intraosseous veins whose diameter limit the size of the extruded embolic phenomena. The ultrasonography of the inferior vena cava shows innumerable fine particles and thrombi which are already organized under the influence of procoagulant factors released from the operative shield and which remain crumbly. These emboli cross the cardiac cavities. Transesophageal echocardiography (TEE), of recent use, does quantify the amount of right atrial filling, duration of echogenesis and size of particles: the result is higher in patients who underwent cemented versus noncemented THA: however the embolism score is no an indicator of seriousness because it is not correlated with cardiorespiratory manifestations; TEE shows only one fourth of the patent foramen ovale, whereas the atrial septal defect is surely one of the most efficient systemic invasion mechanisms to produce perioperative fat embolism. Lung response is most often asymptomatic, even if all patients undergoing intramedullary surgery display an increase in pulmonary vascular resistance which is managed by the right heart only, as well as pulmonary (and sometimes systemic) microvascular fat obstruction. Common operating room monitoring procedures do not detect successive embolic phenomena before they cause pulmonary arterial hypertension which then has repercussions on the left heart and in turn causes peroperative hemodynamic accidents. Only pulmonary arterial pressure measurement with a Swan-Ganz catheter gives early and durable signs of an intolerance to embolic load. Preventive treatment is surgical as there is an inverse relation between embolic marrow and marrow eliminated by large volume

washes (which is often more effective than draining

). Cement indications in older patients as well as the choice of fixation techniques in femoral fractures must take into account the cardio-pulmonary condition of the patient. Resuscitation procedures dealing with these complications end in the patient's death in half of the cases.

CT Check Tags: Animal; Support, Non-U.S. Gov't  
 Bone Cements: AE, adverse effects  
 \*Embolism, Fat: ET, etiology  
 Embolism, Fat: PP, physiopathology  
 Embolism, Fat: TH, therapy  
 English Abstract  
 Femoral Neoplasms: SU, surgery  
 \*Fracture Fixation, Intramedullary: AE, adverse effects  
 Fracture Fixation, Intramedullary: MT, methods  
 \*Hip Prosthesis: AE, adverse effects  
 Hip Prosthesis: MT, methods  
 \*Knee Prosthesis: AE, adverse effects  
 Knee Prosthesis: MT, methods  
 CN 0 (Bone Cements)

L53 ANSWER 2 OF 20 MEDLINE

AN 97096932 MEDLINE

TI Repair of incomplete vertical root fractures in endodontically treated teeth--in vivo trials.

AU Selden H S  
CS Department of Dental Medicine, Muhlenberg Hospital Center,  
Bethlehem, PA, USA.  
SO JOURNAL OF ENDODONTICS, (1996 Aug) 22 (8) 426-9.  
Journal code: I1K. ISSN: 0099-2399.  
CY United States  
DT (CLINICAL TRIAL)  
Journal; Article; (JOURNAL ARTICLE)  
LA English  
FS Dental Journals; Dental  
EM 9702  
EW 19970204  
AB An in vivo clinical study was performed to evaluate the healing of a  
new approach to the repair of incomplete vertical root fractures.  
The two-stage surgical procedure incorporated ultrasonic  
fracture cleaning, bonding of the fracture repair with  
silver glass-ionomer cement, placement of a bone  
graft material, and application of guided-tissue  
regeneration. Of the six roots in the study, five failed within 2 to  
11 months. One root continued to be symptom-free, without  
periodontal pocket formation for 1 yr, but then failed because of  
extension of the incomplete root fracture to the lingual of the  
root.  
CT Check Tags: Female; Human; Male  
\*Bone Transplantation: MT, methods  
Cermet Cements: TU, therapeutic use  
Durapatite  
\*Guided Tissue Regeneration  
Methacrylates  
\*Tooth Fractures: SU, surgery  
\*Tooth Root: IN, injuries  
\*Tooth, Nonvital: SU, surgery  
Ultrasonic Therapy  
RN 1306-06-5 (Durapatite)  
CN 0 (Amalgambond); 0 (Cermet Cements); 0 (Methacrylates)  
L53 ANSWER 3 OF 20 MEDLINE  
AN 96269825 MEDLINE  
TI Influence of marrow on ultrasonic velocity and attenuation  
in bovine trabecular bone.  
AU Alves J M; Ryaby J T; Kaufman J J; Magee F P; Siffert R S  
CS Department of Orthopaedics, MS 1188, The Mount Sinai School of  
Medicine, One Gustave L. Levy Place, New York, New York 10029, USA.  
NC 1R43AR43045-01 (NIAMS)  
SO CALCIFIED TISSUE INTERNATIONAL, (1996 May) 58 (5) 362-7.  
Journal code: CGH. ISSN: 0171-967X.  
CY United States  
DT Journal; Article; (JOURNAL ARTICLE)  
LA English  
FS Priority Journals  
EM 9611

- AB Measurements of ultrasonic velocity and specific differential attenuation (SDA) were obtained on 24 bovine trabecular bone specimens from the femoral condyles. The measurements were obtained using two pairs of ultrasonic transducers, one with a low nominal center frequency (500 kHz) and the other pair with a high nominal center frequency (1 MHz). The ultrasonic velocity and specific differential attenuation associated with the bone samples were determined both with and without marrow, i.e., replacing the marrow with water in the pores of the trabecular bone. Significant increases (2.1% and 2.9%) in the velocity of ultrasound were observed after removal of the marrow, for the low and high frequency transducer pairs, respectively. In contrast, significant decreases (-6.5% and -8.8%) in SDA were observed after removal of the marrow, for the low and high frequency transducer pairs, respectively. The bone densities (BD) of the samples were also determined using single photon absorptiometry (SPA). Correlations between ultrasonic parameters and bone densities for samples both with and without marrow were found to be similar. For example, for the 1 MHz transducer pair, the correlation between BD and velocity was  $r = 0.86$  with marrow, and  $r = 0.89$  without marrow. This study also compared the results obtained using a contact (no water bath) technique and an insertion (with a water bath) technique of ultrasonic measurements. For the high frequency transducer pair, the correlation coefficients between the two methods were  $r = 0.99$  and  $r = 0.93$  for the velocity and specific differential attenuation, respectively. Similar results were found for the low frequency transducer pair as well. In addition, approximately equal correlations between BD and ultrasonic velocity and SDA were also found, indicating that contact and insertion measurements provide essentially equivalent information.
- CT Check Tags: Animal; In Vitro; Support, Non-U.S. Gov't; Support, U.S. Gov't, P.H.S.
- Absorptiometry, Photon
- \*Bone and Bones: US, ultrasonography
- Bone Density
- \*Bone Marrow: US, ultrasonography
- Cattle
- Femur
- Reproducibility of Results
- Ultrasonography: MT, methods
- L53 ANSWER 4 OF 20 MEDLINE
- AN 96146925 MEDLINE
- TI Bone changes in mucopolysaccharidosis VI in cats and the effects of bone marrow transplantation: mechanical testing of long bones.
- AU Norrdin R W; Simske S J; Gaarde S; Schwarzt J D; Thrall M A
- CS Department of Pathology, Colorado State University, Fort Collins 80523, USA.
- NC AR37095 (NIAMS)
- SO BONE, (1995 Nov) 17 (5) 485-9.

Journal code: ASR. ISSN: 8756-3282.

CY United States  
DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals

EM 9605

AB Mucopolysaccharidosis VI (MPS VI) is a genetic lysosomal storage disease in which a defect in aryl sulfatase B leads to accumulation of the glycosaminoglycan dermatan sulfate and abnormalities in the development of cartilage and bone. A feline model of this disease was used to evaluate the efficacy of bone marrow transplant (BMT) therapy. Long bones from MPS VI cats (N = 6) and MPS VI + BMT cats (N = 7) were compared with control cats (N = 11) and control + BMT cats (N = 5) in mechanical tests. Dissected femurs and tibias were subjected to three-point bending and a subgroup of tibias were tested with the mechanical response tissue analyzer (MRTA) in which vibration is used to measure tissue impedance. Cats with MPS VI had markedly decreased stiffness and strength in both bone ( $p < 0.01$ ). There was no significant difference in the MPS VI + BMT group. In the tibias, there was also decreased stiffness and strength in the control + BMT group as compared to controls ( $p < 0.05$ ). However, when cross-sectional area was used to normalize for bone size there was good correlation with strength in both femurs ( $r = 0.907$ ,  $p < 0.01$ ) and tibias ( $r = 0.915$ ,  $p < 0.1$ ), and there were no significant differences between groups in the modulus of elasticity. In the tibias, in which stiffness was measured by MRTA, there was significant correlation with three-point bending stiffness. These results indicate that, in cats with MPS VI, the decreases in stiffness and strength of long bones can be largely accounted for by the decrease in bone size (osteopenia) that is present.

CT Check Tags: Animal; Comparative Study; Female; Male; Support, U.S. Gov't, P.H.S.

Biomechanics

Bone Diseases, Metabolic: PP, physiopathology

\*Bone Marrow Transplantation

Cats

Disease Models, Animal

Femur: PA, pathology

Femur: RA, radiography

Mucopolysaccharidosis VI: PP, physiopathology

Mucopolysaccharidosis VI: RA, radiography

\*Mucopolysaccharidosis VI: TH, therapy

Regression Analysis

Tibia: PA, pathology

Tibia: RA, radiography

Vibration

L53 ANSWER 5 OF 20 MEDLINE

AN 95358699 MEDLINE

TI Ultrasonic resection of neuroblastomas. Long-term local tumor control.

AU Applebaum H; Feinfeld L E  
 CS Division of Pediatric Surgery, Kaiser Permanente Medical Center, Los Angeles, Calif., USA..  
 SO ARCHIVES OF SURGERY, (1995 Aug) 130 (8) 905-8.  
 Journal code: 8IA. ISSN: 0004-0010.  
 CY United States  
 DT Journal; Article; (JOURNAL ARTICLE)  
 LA English  
 FS Abridged Index Medicus Journals; Priority Journals; Cancer Journals  
 EM 9511  
 AB **OBJECTIVE:** To evaluate the effectiveness of **ultrasonic aspiration** in achieving local tumor control of bulky neuroblastomas that are considered unresectable by conventional means. **DESIGN:** A retrospective review of 12 patients undergoing **ultrasonic aspiration** as part of multimodal treatment protocols. **SETTING:** A pediatric oncology referral center. **PATIENTS:** Twelve children with large neuroblastomas located in the abdomen (n = 5), chest (n = 5), and neck (n = 2). Follow-up was 1.5 to 7.5 years. **INTERVENTIONS:** **Ultrasonic aspiration** of the tumor was primary therapy (n = 7) or followed initial chemotherapy (n = 5). All patients underwent subsequent chemotherapy or autologous bone marrow transplantation. **MAIN OUTCOME MEASURES:** The incidences of residual disease and local recurrence were examined. **RESULTS:** Tumor-related symptoms were effectively relieved in all 12 patients. Recurrent local disease led to death in two. One patient died of distant metastases. **CONCLUSIONS:** **Ultrasonic aspiration** minimized blood loss and did not cause damage to adjacent organs. It provided nearly complete tumor resection, enhanced the effectiveness of chemotherapy protocols, and decreased the need for supportive care. **Ultrasonic aspiration** is a safe and effective method for obtaining local control of large neuroblastomas.

CT Check Tags: Human  
 \*Abdominal Neoplasms: TH, therapy  
 Child  
 Child, Preschool  
 Follow-Up Studies  
 \*Head and Neck Neoplasms: TH, therapy  
 Infant  
 Infant, Newborn  
 \*Neoplasm Recurrence, Local: TH, therapy  
 Neoplasm, Residual  
 \*Neuroblastoma: TH, therapy  
 Retrospective Studies  
 \*Suction: MT, methods  
 Treatment Outcome  
 \*Ultrasonography, Interventional: MT, methods

L53 ANSWER 6 OF 20 MEDLINE  
 AN 95193080 MEDLINE

TI Optimization of the magnetic field used for immunomagnetic islet purification.

AU Davies J E; James R F; London N J; Robertson G S

CS Department of Surgery, University of Leicester, United Kingdom.

SO TRANSPLANTATION, (1995 Mar 15) 59 (5) 767-71.

Journal code: WEJ. ISSN: 0041-1337.

CY United States

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals; Cancer Journals

EM 9506

AB Purification of islets based on the physical differences in density between exocrine and islet tissue reduces islet yields and remains one of the factors limiting islet transplantation. Immunomagnetic cell separation methods provide an attractive, highly specific alternative capable of rapid, gentle, high volume cell separation, but they require modification to be applied effectively to separation of the much larger tissue fragments involved in islet purification. In this study, mAb to rat exocrine tissue were coupled to 4.5-microns magnetic beads (M450 Dynabeads), before incubation with standard aliquots of rat pancreatic digest. The effect on immunomagnetic islet purification of modifications in the magnetic field and the method of digest release into the field were investigated. The results showed that using vibration to maintain the immunomagnetically labeled digest in suspension in tissue culture medium whose density had been increased by the addition of BSA, significantly improved the purification process. When the digest suspension was slowly released and allowed to drift under gravity through a magnetic field applied across a narrow tube, the use of a quadripole of permanent magnets improved results compared with bipolar or unipolar magnetic fields. By modifying immunomagnetic cell separation techniques in this way, a median islet yield of 77% could be reliably achieved while removing 88% of the contaminating exocrine tissue. The use of such methods in human islet purification would significantly increase the yield of islets from each donor pancreas and increase the success rate of transplantation from single donors.

CT Check Tags: Animal; Comparative Study; Support, Non-U.S. Gov't

Amylases: AN, analysis

**\*Immunomagnetic Separation**

Insulin: AN, analysis

**\*Islets of Langerhans: CY, cytology**

Islets of Langerhans Transplantation: PA, pathology

Magnetics

Pancreas: CY, cytology

Rats

Serum Albumin, Bovine: PD, pharmacology

**Vibration**

RN 11061-68-0 (Insulin)

CN EC 3.2.1.- (Amylases); 0 (Serum Albumin, Bovine)

L53 ANSWER 7 OF 20 MEDLINE  
 AN 95149316 MEDLINE  
 TI [The use of demineralized bone brephomatrix in the plastic repair of different postoperative defects in the jaws].  
 Ispol'zovanie demineralizovannogo kostnogo brefomatriksa pri plastike razlichnykh posleoperatsionnykh defektov cheliustei.  
 AU Samsonov V E; Volova L T  
 SO STOMATOLOGIJA, (1994 Jul-Sep) 73 (3) 35-7.  
 Journal code: VIM. ISSN: 0039-1735.  
 CY RUSSIA: Russian Federation  
 DT Journal; Article; (JOURNAL ARTICLE)  
 LA Russian  
 FS Dental Journals  
 EM 9505  
 AB The aim of this research was assessment of the results of bone brephoplasty of the jaws. Bone tissue defects after cystectomy, granulotomy, and tooth removal were filled with fragmented transplant, demineralized osseous brephomatrix. Low-frequency ultrasound was used for antibacterial treatment of the recipient osseous bed. A total of 103 patients were operated on, brephoplasty was carried out in 60. Demineralized osseous brephomatrix is characterized by excellent plastic and osteoinductive properties, due to which bone regeneration processes are completed 1.5-2 times sooner in comparison with the control.  
 CT Check Tags: Comparative Study; Human  
 Adult  
 Ambulatory Surgery  
 \*Bone and Bones: EM, embryology  
 Bone Demineralization Technique  
 \*Bone Transplantation: MT, methods  
 English Abstract  
 \*Fetal Tissue Transplantation: MT, methods  
 \*Jaw Diseases: SU, surgery  
 Middle Age  
 \*Postoperative Complications: SU, surgery  
 Stomatognathic Diseases: SU, surgery  
 L53 ANSWER 8 OF 20 MEDLINE  
 AN 95070273 MEDLINE  
 TI Papillary thyroid carcinoma after total body irradiation.  
 AU Uderzo C; van Lint M T; Rovelli A; Weber G; Castellani M R; Bacigalupo A; Masera N; Cohen A  
 CS Department of Paediatric Haematology and Oncology, S Gerardo Hospital, University of Milan, Monza, Italy..  
 SO ARCHIVES OF DISEASE IN CHILDHOOD, (1994 Sep) 71 (3) 256-8.  
 Journal code: 6XG. ISSN: 0003-9888.  
 CY ENGLAND: United Kingdom  
 DT Journal; Article; (JOURNAL ARTICLE)  
 LA English  
 FS Abridged Index Medicus Journals; Priority Journals  
 EM 9502



AB Two children developed papillary thyroid carcinoma after allogeneic bone marrow transplantation (BMT) probably due to radiotherapy during remission and pretransplantation conditioning. Establishing a relationship between the cellular thyroid stimulating hormone (TSH) effect and development of carcinoma in cases with high serum TSH concentrations is difficult. After BMT, patients should be regularly followed up with thyroid ultrasound and, when nodularity is found, fine needle aspiration and/or open biopsy are recommended.

CT Check Tags: Case Report; Human; Male

**Bone Marrow Transplantation**

\*Carcinoma, Papillary: ET, etiology

Child

Child, Preschool

Follow-Up Studies

\*Leukemia, Lymphocytic, Acute, L1: TH, therapy

\*Neoplasms, Second Primary: ET, etiology

\*Thyroid Neoplasms: ET, etiology

Thyrotropin: BL, blood

\*Whole-Body Irradiation: AE, adverse effects

RN 9002-71-5 (Thyrotropin)

L53 ANSWER 9 OF 20 MEDLINE

AN 94095264 MEDLINE

TI Measurement of the interface between bone and immediate endosseous implants: a pilot study in dogs.

AU Ettinger R L; Spivey J D; Han D H; Koorbusch G F

CS Department of Prosthodontics, University of Iowa, Iowa City..

SO INTERNATIONAL JOURNAL OF ORAL AND MAXILLOFACIAL IMPLANTS, (1993) 8 (4) 420-7.

Journal code: GJR. ISSN: 0882-2786.

CY United States

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Dental Journals; Dental

EM 9404

AB This study developed methodology to evaluate the healing of 15 IMZ implants placed in the sockets of freshly extracted mandibular premolars in three adult mongrel dogs. Six surgical sites were prepared in each animal and one site was left as a control. Porous hydroxyapatite was placed around the top half of two implants in each animal; one implant was also covered with polytetrafluoroethylene membrane. All implants were covered with a mucoperiosteal flap and sutured closed. Upon animal sacrifice, the mandibles were retrieved for block dissection and the blocks were embedded in plastic. Serial longitudinal wafers were ground to 50 to 100 microns and stained. Standard photomicrographs were taken so that tracings of the implant-bone interface could be measured on a sonic digitizer. The mean percent amount of bone to plasma-sprayed portion of the implant on the longitudinal sections was 47.9% +/- 5.2% with a range of 17.4% to

84.7%. The horizontal sections were measured at 53.5% +/- 3.7% with a range of 0.0% to 100%. This pilot study suggests that IMZ implants placed in fresh extraction sockets can achieve a degree of intimate contact with bone; however, wide variation in the implant-to-bone interface was found even in the same specimen.

CT Check Tags: Animal  
 \*Alveolar Process: PH, physiology  
 \*Bone Regeneration  
 \*Dental Implantation, Endosseous: MT, methods  
 Dogs  
 \*Osseointegration  
 Pilot Projects  
 Surface Properties  
 Time Factors  
 Tooth Extraction  
 Wound Healing

L53 ANSWER 10 OF 20 MEDLINE

AN 93329836 MEDLINE

TI [The microsurgical transplantation of vascularized bone from a human fetus to man].

Mikrokhirurgicheskaiia peresadka vaskuliarizirovannoi kosti ot chelovecheskogo ploda cheloveku.

AU Milanov N O; Chaushev S N; Trofimov E I; Syvirshevskii E B

SO KHIRURGIIA, (1993 Jan) (1) 51-6. Vile V  
 Journal code: KV3. ISSN: 0023-1207.

CY RUSSIA: Russian Federation

DT Journal; Article; (JOURNAL ARTICLE)

LA Russian

EM 9310

AB On the basis of the possibilities of microsurgical techniques and the results of some experiments conducted for the purpose of studying the "microsurgical" morphometry of various areas of the body of a fetus, determining the viability of fetal tissues in cold and thermal anoxia, working out microsurgical methods and the operative techniques, and solving organizational problems, three operation were carried out in the clinic for transplantation of vascularized fetal humerus (in one case together with the ulna and radius) to three patients with defects in the bone skeleton of the hand. Immunosuppression was not undertaken. Control over the viability of the brephotransplant was conducted by ultrasonic dopplerography on a vascular pedicle, radioisotope scintigraphy, roentgenography, and histological study in aspiration biopsy. The brephotransplant was removed in one case due to suppuration 4 months after the operation. In the other two cases with a follow-up period of over 6 months the brephotransplants are viable.

CT Check Tags: Case Report; Female; Human; Male  
 Adolescence

\*Bone and Bones: BS, blood supply

\*Bone and Bones: EM, embryology  
 Bone Neoplasms: RA, radiography  
 Bone Neoplasms: SU, surgery  
 \*Bone Transplantation: MT, methods  
 Child  
 Chondroma: RA, radiography  
 Chondroma: SU, surgery  
 English Abstract  
 \*Fetal Tissue Transplantation: MT, methods  
 Finger Injuries: SU, surgery  
 Fingers: RA, radiography  
 Fingers: SU, surgery  
 Graft Survival  
 \*Microsurgery: MT, methods  
 Middle Age  
 Suture Techniques  
 Thumb: IN, injuries  
 Thumb: RA, radiography  
 Thumb: SU, surgery

L53 ANSWER 11 OF 20 MEDLINE 08/646,519  
 AN 93197914 MEDLINE  
 TI [Reposition of fragments of the posterior surface of the vertebral  
 edge with intraoperative ultrasound guidance].  
 Die Reposition von Fragmenten der Wirbelkörperhinterkante unter  
 intraoperativer sonographischer Kontrolle.  
 AU Degreif J; Wenda K; Huwel N; Ritter G  
 CS Klinik und Poliklinik für Unfallchirurgie, Johannes  
 Gutenberg-Universität Mainz..  
 SO UNFALLCHIRURG, (1993 Feb) 96 (2) 88-92.  
 Journal code: UNP. ISSN: 0177-5537.  
 CY GERMANY: Germany, Federal Republic of  
 DT Journal; Article; (JOURNAL ARTICLE)  
 LA German  
 EM 9306  
 AB The question of whether fragments of the posterior vertebral surface  
 have to be removed in every case remains to be answered.  
 Nevertheless, in many cases it is important to establish the  
 situation inside the spinal canal intraoperatively. To this end we  
 have used intraoperative ultrasound in 21 cases. The  
 results have always corresponded closely with the findings of  
 preoperative and postoperative computed tomography. Under the  
 influence of this method we have modified our operative procedure.  
 The technique of intraoperative ultrasound and our current  
 operative practice are described in the present paper. We use  
 typical cases to show that intraoperative ultrasound of  
 the spinal canal is a very useful technique for several reasons:  
 Accurate depiction of the spinal canal is always possible without  
 destabilizing the dorsal vertebral structures. The risks and  
 disadvantages of intraoperative myelography are avoided. The method  
 is easy and can be repeated as often as desired, an important

08-92.

10 04  
(1)

advantage in checking the success of the removal of fragments and in reviewing the situation after transpedicular cancellous bone grafting.

CT Check Tags: Female; Human; Male

Adult

English Abstract

Intraoperative Complications: SU, surgery

\*Intraoperative Complications: US, ultrasonography

Lumbar Vertebrae: IN, injuries

Lumbar Vertebrae: SU, surgery

Lumbar Vertebrae: US, ultrasonography

\*Spinal Fractures: SU, surgery

Spinal Fractures: US, ultrasonography

\*Spinal Stenosis: SU, surgery

Spinal Stenosis: US, ultrasonography

Thoracic Vertebrae: IN, injuries

Thoracic Vertebrae: SU, surgery

Thoracic Vertebrae: US, ultrasonography

L53 ANSWER 12 OF 20 MEDLINE

AN 91042900 MEDLINE

TI A newly recognized fastidious gram-negative pathogen as a cause of fever and bacteremia [see comments].

CM Comment in: N Engl J Med 1990 Dec 6;323(23):1625-7

AU Slater L N; Welch D F; Hensel D; Coody D W

CS Department of Medicine, University of Oklahoma Health Sciences Center, College of Medicine, Oklahoma City.

SO NEW ENGLAND JOURNAL OF MEDICINE, (1990 Dec 6) 323 (23) 1587-93.

Journal code: NOW. ISSN: 0028-4793.

CY United States

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Abridged Index Medicus Journals; Priority Journals; Cancer Journals

EM 9102

AB BACKGROUND. We identified a motile, curved, gram-negative bacillus as the cause of persistent fever and bacteremia in two patients with symptomatic human immunodeficiency virus infection. The same organism was subsequently recovered from a bone

marrow-transplant recipient with septicemia and

from two immunocompetent persons with week-long febrile illnesses. All the patients recovered after antimicrobial therapy. METHODS AND RESULTS. Primary cultures of blood processed by centrifugation after blood-cell lysis yielded adherent, white, iridescent, morphologically heterogeneous colonies in 5 to 15 days. Subcultures grew in four days on chocolate, charcoal-yeast extract, or blood agar. The organisms stained weakly with safranin and were not acid-fast. Fluorescent-antibody tests for legionella and francisella were negative. Biochemical reactivity was minimal and difficult to ascertain. Agar-dilution testing revealed in vitro susceptibility to most antimicrobial agents tested. The cellular fatty acid composition of the isolates was similar, resembling that of

Rochalimaea quintana or brucella species, but not Helicobacter pylori or species of campylobacter or legionella. As resolved by gel electrophoresis, cell-membrane preparations of all isolates contained similar proteins, with patterns that differed from that of R. quintana. Patterns of digestion of DNA from all isolates by EcoRV restriction endonuclease were virtually identical and also differed from that of R. quintana. On immunodiffusion, serum from one convalescent patient produced a line of identity with sonicates of all five isolates. CONCLUSIONS. This pathogen may have been unidentified until now because of its slow growth, broad susceptibility to antimicrobial agents, and possible requirement of blood-cell lysis for recovery in culture. It should be sought as a cause of unexplained fever, especially in persons with defective cell-mediated immunity.

CT Check Tags: Case Report; Female; Human; Male Adult

\*Bacterial Infections: MI, microbiology  
 Bacterial Proteins: AN, analysis  
 Blood: MI, microbiology  
 Drug Resistance, Microbial  
 DNA, Bacterial: AN, analysis 1/646,519  
 \*Fever: MI, microbiology  
 Gram-Negative Bacteria: DE, drug effects  
 \*Gram-Negative Bacteria: IP, isolation & purification  
 \*HIV Infections: CO, complications  
 \*Immunosuppression: AE, adverse effects  
 Middle Age  
 Opportunistic Infections: CO, complications  
 \*Opportunistic Infections: MI, microbiology  
 \*Septicemia: MI, microbiology

CN 0 (Bacterial Proteins); 0 (DNA, Bacterial)

L53 ANSWER 13 OF 20 MEDLINE

AN 89108579 MEDLINE

TI Antibody response to Staphylococcus aureus surface proteins in rabbits with persistent osteomyelitis after treatment with demineralized bone implants.

AU Thomas V L; Sanford B A; Keogh B S; Triplett R G

CS Department of Microbiology, University of Texas Health Science Center, San Antonio 78284-7758.

NC 1 T32 AI07271 (NIAID)

R01 AI17242 (NIAID)

85260

SO INFECTION AND IMMUNITY, (1989 Feb) 57 (2) 404-12.

Journal code: GO7. ISSN: 0019-9567.

CY United States

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals; Cancer Journals

EM 8905

AB A rabbit model was used to study the effect of allogeneic

demineralized bone powder (DBP) implants on the persistence of Staphylococcus aureus osteomyelitis. Thirty-one rabbits with chronic osteomyelitis of the tibia established by day 21, were started on systemic antibiotics followed by either no additional treatment or debridement plus either DBP (with or without supplemental antibiotics) or supplemental antibiotics only. On day 21, cultures showed a mean of  $2 \times 10^4$  CFU/mg of debrided osseous material. By day 70, the treatment most effective in clearing infection was found in animals treated with supplemental antibiotics only (mean of  $142 \pm 116$  CFU/mg). In contrast, infection persisted at a 7- to 10-fold-higher level in animals receiving DBP with and without supplemental antibiotics; these results suggest that DBP contributed to persistence of infection. Longitudinal sera were tested again staphylococcal sonic extracts by immunoblot. Detection of numerous probe-positive bands indicated complex but remarkably similar antibody responses among infected animals. Antibodies attached directly to the cell surfaces of staphylococci as shown by immunogold and blocked the binding of organisms to HEP-2 and human fetal lung cells in a radioadherence assay. Antibodies could be absorbed out by intact organisms and were unreactive by immunoblot against antigens derived from cells pretreated with pronase, proteinase K, or lysostaphin. These results indicate that the major response was directed against staphylococcal cell surface proteins. Surprisingly, only one major band (molecular weight, approximately 12,000) was detected when a homologous in vivo antigen preparation was studied by immunoblot. Antibody reactive against this peptide did not appear to react with staphylococci grown in vitro.

CT

Check Tags: Animal; Support, U.S. Gov't, P.H.S.

\*Antibodies, Bacterial: BI, biosynthesis  
 Antigen-Antibody Reactions  
 Antigens, Bacterial: IM, immunology  
 Antigens, Surface: IM, immunology  
 Bacterial Adhesion  
 \*Bone and Bones: TR, transplantation  
 \*Bone Transplantation  
 Cells, Cultured  
 Immune Sera: AN, analysis  
 Immunoblotting  
 \*Membrane Proteins: IM, immunology  
 Minerals: ME, metabolism  
 \*Osteomyelitis: IM, immunology  
 Osteomyelitis: MI, microbiology  
 Osteomyelitis: TH, therapy  
 Rabbits  
 Radioimmunoassay  
 \*Staphylococcal Infections: IM, immunology  
 Staphylococcal Infections: MI, microbiology  
 Staphylococcal Infections: TH, therapy  
 \*Staphylococcus aureus: IM, immunology  
 Staphylococcus aureus: PH, physiology

Staphylococcus aureus: UL, ultrastructure

CN 0 (Antibodies, Bacterial); 0 (Antigens, Bacterial); 0 (Antigens, Surface); 0 (Membrane Proteins); 0 (Minerals)

L53 ANSWER 14 OF 20 MEDLINE

AN 84125277 MEDLINE

TI Sonography of the gallbladder in bone marrow transplant patients.

AU Frick M P; Snover D C; Feinberg S B; Salomonowitz E; Crass J R; Ramsay N K

SO AMERICAN JOURNAL OF GASTROENTEROLOGY, (1984 Feb) 79 (2) 122-7.

Journal code: 3HE. ISSN: 0002-9270.

CY United States

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals; Cancer Journals

EM 8405

AB Nonshadowing opacities in the gallbladder (sludge) occurred in nine of 44 bone marrow transplant patients as a nonspecific finding. Sludge occurring within 2 wk of bone marrow transplant was transient. Later, sludge accompanied hepatic graft versus host disease in seven of 10 patients with this complication of bone marrow transplant. During the course of graft versus host disease, disappearance of sludge matched clinical improvement. Persistence of sludge in patients with hepatic graft versus host disease was associated with a poor prognosis. The gallbladder of one patient who underwent cholecystectomy exhibited histopathologic findings of graft versus host disease.

CT Check Tags: Female; Human; Male

Adolescence

Adult

Anemia, Aplastic: TH, therapy

\*Bone Marrow: TR, transplantation

\*Bone Marrow Transplantation

Child

Child, Preschool

\*Gallbladder: PA, pathology

\*Graft vs Host Disease: DI, diagnosis

Infant

Leukemia: TH, therapy

\*Liver Diseases: DI, diagnosis

Liver Function Tests

Lymphoma: TH, therapy

Prognosis

\*Ultrasonics: DU, diagnostic use

L53 ANSWER 15 OF 20 MEDLINE

AN 81154396 MEDLINE

TI Regression on oxymetholone-induced hepatic tumors after bone marrow transplantation in aplastic anemia.

AU Montgomery R R; Ducore J M; Githens J H; August C S; Johnson M L

NC RR-69 (NCRR)

SO TRANSPLANTATION, (1980 Aug) 30 (2) 90-6.  
Journal code: WEJ. ISSN: 0041-1337.

CY United States

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals

EM 8107

AB Treatment of acquired aplastic anemia with androgens has been occasionally associated with the development of hepatic tumors. We have studied a 13-year-old boy with idiopathic aplastic anemia in whom oxymetholone treatment was associated with a partial hematological remission. Thirty-four months later, however, the patient developed multiple hepatic tumors. When oxymetholone therapy was discontinued, the aplastic anemia relapsed. He then underwent bone marrow transplantation from his HLA-A, B, and D-compatible sibling. This was followed by hematological and immunological reconstitution. The hepatic tumors underwent progressive regression after bone marrow transplantation. The patient is now 3 years post-bone marrow transplantation and is in complete remission of his aplastic anemia with no evidence of detectable liver tumors.

CT Check Tags: Case Report; Human; Male; Support, U.S. Gov't, P.H.S. Adolescence

\*Anemia, Aplastic: CO, complications

Anemia, Aplastic: DT, drug therapy

\*Bone Marrow: TR, transplantation

\*Bone Marrow Transplantation

Liver Neoplasms: CI, chemically induced

Liver Neoplasms: DI, diagnosis

\*Liver Neoplasms: TH, therapy

\*Oxymetholone: AE, adverse effects

Transplantation, Homologous

Ultrasonics: DU, diagnostic use

RN 434-07-1 (Oxymetholone)

L53 ANSWER 16 OF 20 MEDLINE

AN 80162499 MEDLINE

TI Osteopoietin-humoral induction factor in osteogenesis.

AU Amler M H; Gold W

SO JOURNAL OF PERIODONTOLOGY, (1980 Apr) 51 (4) 185-9.  
Journal code: JMT. ISSN: 0022-3492.

CY United States

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals; Dental Journals

EM 8008

AB A heat-stable, glycoprotein-like material, osteopoietin, produced during bone marrow regeneration, has been shown to induce bone formation when implanted in the rat eye. The material was separated by ultrasonic treatment or by acid buffer (pH 3-5) from sponges implanted in the marrow. The extracted material free of



bone or cell solids, induced bone formation in the anterior eye chamber of the rat, whereas the cell solids and control sponges similarly implanted did not.

CT Check Tags: Animal; Support, U.S. Gov't, P.H.S.  
 Bone and Bones: PA, pathology  
 Bone Regeneration  
 Eye: AH, anatomy & histology  
 Glycoproteins: IP, isolation & purification  
 \*Glycoproteins: PH, physiology  
 Metaplasia  
 \*Osteogenesis  
 Rats

CN 0 (osteopoietin); 0 (Glycoproteins)

L53 ANSWER 17 OF 20 MEDLINE  
 AN 79190914 MEDLINE  
 TI [Possibilities of using ultrasonic tools in changing endoprostheses].  
 Möglichkeiten der Anwendung von Ultraschallwerkzeug bei Endoprothesenwechsel.

AU Nieder E; Engelbrecht E; Roder U; Strickle E  
 SO CHIRURG, (1979 Apr) 50 (4) 257-61.  
 Journal code: D5U. ISSN: 0009-4722.

CY GERMANY, WEST: Germany, Federal Republic of  
 DT Journal; Article; (JOURNAL ARTICLE)  
 LA German  
 FS Priority Journals  
 EM 7910

AB In joint replacement surgery an exchange of endoprostheses is technically most difficult, time consuming, and extremely unpleasant for the patient. Removal of the implant without damaging the bone entails many problems. Experience has shown that, in addition to the normal operative technique, the ultrasonic method may be very helpful. Ultrasonic implements that melt thermoplastic implants facilitate the removal of those implants (e.g., polymethylmethacrylate, polyethylene), protect the tissue, and save time. This method is not an alternative to the normal operative technique, but an additional help.

CT Check Tags: Human  
 English Abstract  
 \*Joint Prosthesis  
 Orthopedic Equipment  
 \*Ultrasonics: IS, instrumentation

L53 ANSWER 18 OF 20 MEDLINE  
 AN 77247465 MEDLINE  
 TI Obstructive jaundice after bone marrow transplantation.  
 AU Lipshutz G R; Katon R M; Lee T G  
 SO GASTROENTEROLOGY, (1977 Sep) 73 (3) 565-9.  
 Journal code: FH3. ISSN: 0016-5085.

CY United States  
 DT Journal; Article; (JOURNAL ARTICLE)  
 LA English  
 FS Abridged Index Medicus Journals; Priority Journals  
 EM 7712  
 AB Jaundice after bone marrow transplantation is usually a consequence of graft versus host disease. Reported is a patient who presented with obstructive jaundice several months after a successful marrow allograft. Despite a benign bone marrow examination, abdominal ultrasound, upper gastrointestinal series, and endoscopic biopsy were utilized to diagnose recurrent leukemia at the pancreatic head and descending duodenum. The entities of graft versus host disease as related to jaundice, and gastrointestinal leukemia, in the presence of a "remission" bone marrow, are reviewed.

CT Check Tags: Case Report; Human; Male  
 Biopsy  
 \*Bone Marrow: CY, cytology  
 \*Bone Marrow: TR, transplantation  
 \*Bone Marrow Transplantation  
 Child  
 \*Cholestasis: ET, etiology  
 Duodenal Neoplasms: CO, complications  
 Duodenal Neoplasms: PA, pathology  
 Duodenal Neoplasms: RA, radiography  
 Graft vs Host Reaction  
 Intestinal Neoplasms: PA, pathology  
 \*Leukemia: CO, complications  
 Leukemia: DI, diagnosis  
 Leukemia: PA, pathology  
 Leukemia: RA, radiography  
 Pancreatic Neoplasms: CO, complications  
 Pancreatic Neoplasms: RA, radiography  
 Recurrence  
 Transplantation, Homologous  
 Ultrasonics: DU, diagnostic use

L53 ANSWER 19 OF 20 MEDLINE  
 AN 73073617 MEDLINE  
 TI Soluble H-2 antigens: effect on graft-versus-host reaction and factors influencing its effect on host-versus-skin-graft reaction.  
 AU Halle-Pannenko O; Martyre M C; Mathe G  
 SO TRANSPLANTATION PROCEEDINGS, (1972 Dec) 4 (4) 517-21.  
 Journal code: WE9. ISSN: 0041-1345.

CY United States  
 DT Journal; Article; (JOURNAL ARTICLE)  
 LA English  
 FS Priority Journals  
 EM 7304  
 CT Check Tags: Animal  
 Bone Marrow: CY, cytology  
 Bone Marrow: TR, transplantation

**Bone Marrow Transplantation**

- \*Graft vs Host Reaction
  - Graft Rejection
  - Hemagglutination Inhibition Tests
- \*Histocompatibility Antigens
  - Liver: CY, cytology
  - Liver: IM, immunology
  - Lymph Nodes: CY, cytology
  - Lymph Nodes: TR, transplantation
- Mice
  - Mice, Inbred C57BL
  - Radiation Chimera
- \*Skin: TR, transplantation
- \*Skin Transplantation
  - Solubility
- \*Transplantation Immunology
  - Transplantation, Homologous
- Ultrasonics**

L53 ANSWER 20 OF 20 MEDLINE  
AN 68195009 MEDLINE  
TI Thymus-marrow immunocompetence. 3. The requirement for living thymus cells.  
AU Claman H N; Chaperon E A; Selner J C  
SO PROCEEDINGS OF THE SOCIETY FOR EXPERIMENTAL BIOLOGY AND MEDICINE, (1968 Feb) 127 (2) 462-6.  
Journal code: PXZ. ISSN: 0037-9727.  
CY United States  
DT Journal; Article; (JOURNAL ARTICLE)  
LA English  
FS Priority Journals  
EM 6807  
CT Check Tags: Animal  
\*Antibody Formation  
\*Bone Marrow: IM, immunology  
Bone Marrow: TR, transplantation  
Bone Marrow Transplantation  
Erythrocytes: IM, immunology  
Injections, Intraperitoneal  
Injections, Intravenous  
Mice  
\*Radiation Effects  
Rats  
Sheep  
Spleen: IM, immunology  
Thymectomy  
\*Thymus Gland: IM, immunology  
Thymus Gland: RE, radiation effects  
Thymus Gland: TR, transplantation  
\*Transplantation Immunology  
Ultrasonics

=> d 154 1- ti

L54 ANSWER 1 OF 53 MEDLINE

TI **Bone marrow transplantation** in children. Imaging assessment of complications.

L54 ANSWER 2 OF 53 MEDLINE

TI Budd-Chiari syndrome: diagnosis with **ultrasound** and nuclear medicine calcium colloid liver scan following non-diagnostic contrasted CT scan.

L54 ANSWER 3 OF 53 MEDLINE

TI In-utero transplantation of parental CD34 haematopoietic progenitor cells in a patient with X-linked severe combined immunodeficiency (SCIDX1).

L54 ANSWER 4 OF 53 MEDLINE

TI Enhancement of fracture healing.

L54 ANSWER 5 OF 53 MEDLINE

TI Peripheral primitive neuroectodermal tumors. CT and MRI evaluation.

L54 ANSWER 6 OF 53 MEDLINE

TI [Reconstruction of speech and chewing function after extensive tumor resection in the area of the jaw and face].  
Wiederherstellung der Sprech- und Kaufunktion nach ausgedehnten Tumorsektionen im Kiefer-Gesichtsbereich.

L54 ANSWER 7 OF 53 MEDLINE

TI Outcome of extensive evaluation before adjuvant therapy in women with breast cancer and 10 or more positive axillary lymph nodes.

L54 ANSWER 8 OF 53 MEDLINE

TI [The value of Sowinski coracoid-plasty for recurrent dislocation of the shoulder].  
Wartosc plastyki wyrostka kruczego sposobem Sowinskiego w nawykowym zwichniu stawu ramiennego.

L54 ANSWER 9 OF 53 MEDLINE

TI Hydroxyapatite-alumina composites and bone-bonding.

L54 ANSWER 10 OF 53 MEDLINE

TI Enhancement of fracture-healing [see comments].

L54 ANSWER 11 OF 53 MEDLINE

TI Needle liver biopsy in thalassaemia: analyses of diagnostic accuracy and safety in 1184 consecutive biopsies.

L54 ANSWER 12 OF 53 MEDLINE

TI A pseudo-epidemic involving **bone allografts**.

- L54 ANSWER 13 OF 53 MEDLINE  
TI **Ultrasound** evaluation of hepatic and splenic microabscesses in the immunocompromised patient: sonographic patterns, differential diagnosis, and follow-up.
- L54 ANSWER 14 OF 53 MEDLINE  
TI Carotido-brachial artery bypass for radiation induced injury of the subclavian artery. The value of a lateral mid-arm approach.
- L54 ANSWER 15 OF 53 MEDLINE  
TI Fetal tissue collection from spontaneous abortions: a report from a single centre.
- L54 ANSWER 16 OF 53 MEDLINE  
TI Prospective study of pituitary-gonadal function to evaluate short-term effects of ablative chemotherapy or total body irradiation with autologous or allogenic marrow **transplantation** in post-menarcheal female patients.
- L54 ANSWER 17 OF 53 MEDLINE  
TI Clinical evaluation of HTR polymer **bone** replacement **grafts** in human mandibular Class II molar furcations.
- L54 ANSWER 18 OF 53 MEDLINE  
TI **Ultrasonically** determined elasticity and cortical density in canine femora after hip arthroplasty.
- L54 ANSWER 19 OF 53 MEDLINE  
TI Definition of a subset of human peripheral blood mononuclear cells that are permissive to human cytomegalovirus infection.
- L54 ANSWER 20 OF 53 MEDLINE  
TI Advances in the screening and treatment of ovarian cancer [published erratum appears in CA Cancer J Clin 1993 May-Jun;43(3):191-2] [see comments].
- L54 ANSWER 21 OF 53 MEDLINE  
TI Venocclusive disease of the liver: prospective study of US evaluation.
- L54 ANSWER 22 OF 53 MEDLINE  
TI Chronic systemic candidiasis in acute leukemia.
- L54 ANSWER 23 OF 53 MEDLINE  
TI Effect of an implant of trenbolone acetate and estradiol on growth, feed efficiency, and carcass composition of Holstein and beef steers [published erratum appears in J Anim Sci 1992 Aug;70(8):2601].
- L54 ANSWER 24 OF 53 MEDLINE  
TI Sports traumatology today. A review of common current sports injury

problems.

L54 ANSWER 25 OF 53 MEDLINE

TI [Care of the focus of lesion during various stages of the surgical treatment of chronic osteomyelitis].  
Sanatsiia ochaga porazheniia na razlichnykh etapakh khirurgicheskogo lecheniia khronicheskogo osteomielita.

L54 ANSWER 26 OF 53 MEDLINE

TI [Ultrasonic evaluation of homologous bone and cartilage transplants of the femoral condyles].  
Sonographische Beurteilung homologer Knochen/Knorpeltransplantate der Femurkondylen.

L54 ANSWER 27 OF 53 MEDLINE

TI The evaluation of cortical bone remodeling with a new ultrasonic technique.

L54 ANSWER 28 OF 53 MEDLINE

TI [Non-ossifying fibroma of the bone in children].  
Neossifitsiruiushchiasia fibroma kosti u detei.

L54 ANSWER 29 OF 53 MEDLINE

TI [The value of sonography in assessing bone transplants--an experimental study].  
Stellenwert der Sonographie bei der Beurteilung von Spongiosatransplantaten--eine experimentelle Untersuchung.

L54 ANSWER 30 OF 53 MEDLINE

TI The evaluation of bone remodeling about orthopaedic implants with ultrasound.

L54 ANSWER 31 OF 53 MEDLINE

TI [Ultrasound control of spongiosa transplant--support of radiologic diagnosis].  
Sonographische Kontrolle von Spongiosatransplantaten--Unterstützung der radiologischen Diagnostik.

L54 ANSWER 32 OF 53 MEDLINE

TI Detection of acute inflammation with <sup>111</sup>In-labeled nonspecific polyclonal IgG.

L54 ANSWER 33 OF 53 MEDLINE

TI Continuous measurement of biparietal distance in the intact and hypophysectomized fetal sheep using ultrasound.

L54 ANSWER 34 OF 53 MEDLINE

TI In utero bone marrow transplantation of fetal baboons with mismatched adult marrow: initial observations.

L54 ANSWER 35 OF 53 MEDLINE

- TI SEM-EPMA observation of three types of apatite-containing glass-ceramics implanted in bone: the variance of a Ca-P-rich layer.
- L54 ANSWER 36 OF 53 MEDLINE  
TI [3 case reports of lumbosacral agenesis; role of the lumbo-iliac bone graft].  
A propos de 3 observations d'agenesie lombosacree, place de la greffe lumbo-iliaque.
- L54 ANSWER 37 OF 53 MEDLINE  
TI [Current problems of bone pathology in children (surgical aspects)].  
Sovremennye problemy kostnoi patologii u detei (khirurgicheskie aspekty).
- L54 ANSWER 38 OF 53 MEDLINE  
TI [Roentgenological changes after ultrasonic discectomy and osteoplasty of the intervertebral defect].  
Rentgenologicheskie izmeneniia posle ul'trazvukovoi diskektomii i kostnoi plastiki mezhpozvonochnogo defekta.
- L54 ANSWER 39 OF 53 MEDLINE  
TI [The use of ultrasonic bone fusion for filling in bone defects. Animal studies. II. Concluding remarks].  
Die Anwendung des Ultraschallknochenschweissens zum Auffullen von Knochenhohlen. Tierexperimentelle Untersuchungen. II. Abschliessende Bemerkungen.
- L54 ANSWER 40 OF 53 MEDLINE  
TI [Basic studies on ultrasonic surgery. I. Principles, status and perspectives of ultrasonic surgery].  
Grundlagenuntersuchungen zur Ultraschallchirurgie.
- L54 ANSWER 41 OF 53 MEDLINE  
TI [Cranioplasty with formalin-treated homotransplants using ultrasonic instruments].  
Kranioplastika formalinizirovannyimi gomotransplantatami s primeneniem ul'trazvukovykh instrumentov.
- L54 ANSWER 42 OF 53 MEDLINE  
TI [Current state and prospectives of ultrasonic osteosynthesis surgery of accidental injuries].  
Gegenwartiger Stand und Perspektive der Ultraschallosteosynthese in der Unfallchirurgie.
- L54 ANSWER 43 OF 53 MEDLINE  
TI Tumor inhibition by effector cells cultured from progressing sarcomas.
- L54 ANSWER 44 OF 53 MEDLINE  
TI Experimental models for prevention of graft-versus-host reaction in

bone marrow transfusion. II. Inability to prevent graft-versus-host reaction in an H-2 identical combination.

L54 ANSWER 45 OF 53 MEDLINE

TI [Expediency of plastic surgery methods with osteomyelitic cavities].  
O tselesoobraznosti nekotorykh sposobov plastiki  
osteomieliticheskikh polostei.

L54 ANSWER 46 OF 53 MEDLINE

TI Experimental models for prevention of graft-versus-host reaction in bone marrow transfusion. I. Selective suppression and augmentation of splenomegaly and cytotoxicity.

L54 ANSWER 47 OF 53 MEDLINE

TI [Osteosynthesis of fragments of the mandible by homologous grafting of sections and ultrasonic coagulation].  
Nakostnaia fiksatsiia otlomoknizhnei cheliusti vreznyimi  
kortikal'nyimi gomotransplantatami i ul'trazvukovoi svarkoi.

L54 ANSWER 48 OF 53 MEDLINE

TI [Results of studying indices of immunologic reactivity following bone homotransplantation. II].  
O rezul'tatakh izucheniia nekotorykh pokazatelei immunologicheskoi  
reaktivnosti bol'nykh posle gomotransplantatsii kosti. I.

L54 ANSWER 49 OF 53 MEDLINE

TI Ultrasonics and physical properties of healing bone.

L54 ANSWER 50 OF 53 MEDLINE

TI [Joining of bones using ultrasonics].  
Soedinenie kostei s pomoshch'iu ul'trasvuka.

L54 ANSWER 51 OF 53 MEDLINE

TI [Repair of bone defects and regeneration of bone tissue by  
ultrasonic welding].  
Zapolnenie defektov v kostiakh i vossozhdanie kostnoi tkani s  
pomoshch'iu ul'trazvukovoi svarki.

L54 ANSWER 52 OF 53 MEDLINE

TI [Ultrasonic osteosynthesis and reconstruction of bone  
tissue].  
Ul'trazvukovoi osteosintez i vossozhdanie kostnoi tkani.

L54 ANSWER 53 OF 53 MEDLINE

TI [Osteosynthesis and refilling of bone defects by use of  
ultrasound welding].  
Osteosintez i zapolnenie defektov v kostiakh s pomoshch'iu  
ul'trazvukovoi svarki.

=> d 154 4,10,27,31,34,36,38,39,40,42,44,46,47,49,50,52 all



L54 ANSWER 4 OF 53 MEDLINE  
 AN 96284389 MEDLINE  
 TI Enhancement of fracture healing.  
 AU Einhorn T A  
 CS Mount Sinai School of Medicine, New York, New York, USA.  
 SO INSTRUCTIONAL COURSE LECTURES, (1996) 45:401-16. Ref: 140  
 Journal code: IFC. ISSN: 0065-6895.  
 CY United States  
 DT Journal; Article; (JOURNAL ARTICLE)  
 General Review; (REVIEW)  
 (REVIEW, TUTORIAL)  
 LA English  
 FS Priority Journals  
 EM 9611  
 CT Check Tags: Human  
 Bone Remodeling  
 Bone Transplantation  
 Electric Stimulation Therapy: MT, methods  
 Fracture Fixation: MT, methods  
 Fracture Healing: DE, drug effects  
 \*Fracture Healing: PH, physiology/010,5,5,5  
 Growth Substances: TU, therapeutic use  
 Osteogenesis  
 Physical Stimulation  
 Proteins: TU, therapeutic use  
 Transforming Growth Factor beta: TU, therapeutic use  
 Ultrasonic Therapy: MT, methods  
 CN 0 (Bone Morphogenetic Proteins); 0 (Growth Substances); 0  
 (Proteins); 0 (Transforming Growth Factor beta)

L54 ANSWER 10 OF 53 MEDLINE  
 AN 95301601 MEDLINE  
 TI Enhancement of fracture-healing [see comments].  
 CM Comment in: J Bone Joint Surg Am 1996 Dec;78(12):1945-6  
 AU Einhorn T A  
 CS Department of Orthopaedics, Mount Sinai Medical Center, New York, N.Y. 10029-6574, USA.  
 SO JOURNAL OF BONE AND JOINT SURGERY. AMERICAN VOLUME, (1995 Jun) 77 (6) 940-56. Ref: 144  
 Journal code: HJR. ISSN: 0021-9355.  
 CY United States  
 DT Journal; Article; (JOURNAL ARTICLE)  
 General Review; (REVIEW)  
 (REVIEW, TUTORIAL)  
 LA English  
 FS Abridged Index Medicus Journals; Priority Journals  
 EM 9509  
 CT Check Tags: Human  
 Bone Marrow Transplantation  
 Bone Transplantation  
 Bone and Bones: BS, blood supply

Electric Stimulation Therapy: MT, methods  
 \*Fracture Healing: PH, physiology  
 Growth Substances: TU, therapeutic use  
 \*Osseointegration  
 Osteogenesis: PH, physiology  
 Physical Stimulation  
 Transplantation, Autologous  
 Ultrasonic Therapy: MT, methods

CN 0 (Growth Substances)

L54 ANSWER 27 OF 53 MEDLINE

AN 90263991 MEDLINE

TI The evaluation of cortical bone remodeling with a new  
**ultrasonic technique.**

AU Zimmerman M C; Meunier A; Katz J L; Christel P

CS Department of Orthopaedic Surgery, University of Medicine and  
 Dentistry of New Jersey, Newark 07103.

SO IEEE TRANSACTIONS ON BIOMEDICAL ENGINEERING, (1990 May) 37 (5)  
 433-41.

Journal code: GFX. ISSN: 0018-9294.

CY United States

DT Journal; Article; (JOURNAL ARTICLE)

LA English

EM 9009

AB Total hip arthroplasty causes biomechanical changes in the normal  
 femur including a redistribution and concentration of stress. These  
 mechanical alterations in the femur cause local remodeling and  
 resorption that affect the geometry and mechanical properties of the  
 bone. Three complementary techniques were used to study the local  
 adaptive remodeling of bone due to prosthesis

**implantation.** A graphics package was used to obtain section  
 geometrical information, an ultrasonic wave propagation  
 technique to determine elastic properties, and a new scanning  
 acoustic microscope (SAM) to map the acoustic impedance profile of  
 each section. The effects of the implantation of two different types  
 of hip prostheses were investigated, an uncemented bipolar  
 prosthesis with an Austin-Moore type stem and a cemented Charnley  
 prosthesis. Prosthesis implantation resulted in an increase in  
 cortical area and mediolateral diameter and a decrease in  
 antero-posterior diameter. Both prostheses had a detrimental effect  
 on local elastic properties as determined by acoustic velocity  
 measurements. Finally, the SAM system provided information about  
 local inhomogeneities in bone properties not obtainable by any other  
 means. The acoustic impedance maps highlighted bone resorption and  
 bone remodeling on a microstructural level.

CT Check Tags: Comparative Study; Female; Human; Support, Non-U.S.  
 Gov't; Support, U.S. Gov't, P.H.S.

Aged

Aged, 80 and over

\*Bone Development

\*Bone Resorption: DI, diagnosis

Elasticity

Femur: PA, pathology

\*Hip Prosthesis: AE, adverse effects

\*Ultrasonography: MT, methods

- L54 ANSWER 31 OF 53 MEDLINE  
 AN 89158569 MEDLINE  
 TI [Ultrasound control of spongiosa transplant--support of radiologic diagnosis].  
 Sonographische Kontrolle von Spongiosatransplantaten--Unterstützung der radiologischen Diagnostik.  
 AU Reith H B; Boddeker W; Kozuschek W  
 CS Chirurgische Universitätsklinik, Knappschaftskrankenhaus Bochum-Langendreer..  
 SO LANGENBECKS ARCHIV FÜR CHIRURGIE, (1989) 374 (1) 39-45.  
 Journal code: L1M. ISSN: 0023-8236.  
 CY GERMANY, WEST: Germany, Federal Republic of  
 DT Journal; Article; (JOURNAL ARTICLE)  
 LA German  
 FS Priority Journals  
 EM 8906  
 AB The x-ray control is standard for spongiosa substance plasty and shows three periods of healing. In the first two periods (vascularisation and osteogenic reaction) the examination is restricted. Ultrasound control is a simple handling method although a hyporesonance or non-resonance of calcareous bone exists. The follow-ups concerning spongiosa substance plasty are made by ultrasound and x-ray control, and more exact assessments are possible. Advantages and disadvantages of ultrasound in extremities are discussed.  
 CT Check Tags: Human  
 Bone and Bones: PA, pathology  
 \*Bone and Bones: TR, transplantation  
 \*Bone Transplantation  
 English Abstract  
 Follow-Up Studies  
 \*Fracture Fixation, Internal  
 \*Ultrasonography  
 \*Wound Healing
- L54 ANSWER 34 OF 53 MEDLINE  
 AN 89001461 MEDLINE  
 TI In utero bone marrow transplantation  
 of fetal baboons with mismatched adult marrow: initial observations.  
 AU Roodman G D; Vandenberg J L; Kuehl T J  
 CS Research Service, Audie L. Murphy VA Hospital, San Antonio, TX 78284.  
 NC HL-31264 (NHLBI)  
 SO BONE MARROW TRANSPLANTATION, (1988 Mar) 3 (2) 141-7.  
 Journal code: BON. ISSN: 0268-3369.  
 CY ENGLAND: United Kingdom

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals

EM 8901

AB Recent advances in prenatal diagnoses of sickle cell anemia and thalassemia permit early identification of affected fetuses. However, the only intervention possible to date is abortion of the affected fetuses. **Transplantation of normal marrow** into fetuses in utero could correct these life-threatening disorders, but to accomplish this techniques must be developed for fetal transplantation in man. Therefore, we have transplanted fetal baboons with mismatched adult baboon bone marrow from donors that differed at the glucose phosphate isomerase locus. Twenty-two fetuses between 60 and 160 days of gestation (term gestation is 182 days) were transplanted intraperitoneally with 10(9) marrow mononuclear cells/kg body weight using an **ultrasonic** technique. No immunosuppressive or preparative regimen was given prior to or after transplantation, and all fetuses tolerated the procedure well. One month after transplantation fetal blood samples were obtained to assess chimerism. Three chimeras were detected among 10 fetuses transplanted at 80 days' gestation, and no chimeras were detected in fetuses greater than 80 days' gestation at the time of transplantation. All chimeras died in utero during the third trimester of pregnancy: one of an intrauterine infection at 160 days' gestation, one at 135 days' gestation and one at 145 days' gestation. In contrast, the other 19 non-chimeric fetuses survived. These data suggest: (1) in utero fetal **bone marrow transplantation** is technically feasible in primates; (2) that allogeneic adult bone marrow can engraft and persist for at least 1 month in fetal baboons transplanted at 80 days of gestation; and (3) that delineation of the causes for loss of fetal chimeras should prove valuable in assessing the therapeutic potential for in utero **bone marrow transplantation** in man.

CT Check Tags: Animal; Female; Male; Support, U.S. Gov't, Non-P.H.S.; Support, U.S. Gov't, P.H.S.

Aging

Bone Marrow: PH, physiology

\*Bone Marrow: TR, transplantation

\*Bone Marrow Transplantation

Chimera

\*Fetal Development

Gestational Age

Glucosephosphate Isomerase: BL, blood

Glucosephosphate Isomerase: GE, genetics

\*Histocompatibility Antigens: GE, genetics

Papio

CN EC 5.3.1.9 (Glucosephosphate Isomerase); 10 (Histocompatibility Antigens)

L54 ANSWER 36 OF 53 MEDLINE

AN 86053764 MEDLINE

TI [3 case reports of lumbosacral agenesis; role of the lumbo-iliac bone graft].

A propos de 3 observations d'agenesie lombosacree, place de la greffe lombo-iliaque.

AU Saint-Supery G; Wallon P; Bucco P; Barnetche J M

SO CHIRURGIE PEDIATRIQUE, (1985) 26 (3) 181-6.

Journal code: COA. ISSN: 0180-5738.

CY France

DT Journal; Article; (JOURNAL ARTICLE)

LA French

FS Priority Journals

EM 8603

AB From 3 cases (8,2 and 16 years) the two first patients have been followed since birth, and in reviewing the 124 cases published in the literature, the authors analyze: the possible causes with in first the mother's diabetes, the possibility of antenatal diagnosis with ultrasound, the clinical symptoms: paraplegia with stiff joints and deformities of lower limbs, finally the therapeutic possibilities to correct the deformities of lower limbs and find the compromise between straighten the patient to authorize the possible standing and keep mobility between trunk and pelvis to allow sitting. In this case, the lumbo-iliac bone graft can be used if necessary and if the mobility of the hips make that possible. This bone graft was realized once in January 1979 (follow up 5 1/2 years). All the references are in Dr Barnetche's thesis (Bordeaux 1984, n degrees 135).

CT Check Tags: Case Report; Female; Human; Male

Adolescence

Child

Child, Preschool

Contracture: ET, etiology

Contracture: RH, rehabilitation

English Abstract

Locomotion

\*Lumbar Vertebrae: AB, abnormalities

Lumbar Vertebrae: RA, radiography

\*Paraplegia: ET, etiology

Paraplegia: RH, rehabilitation

\*Sacrum: AB, abnormalities

Sacrum: RA, radiography

L54 ANSWER 38 OF 53 MEDLINE

AN 83116317 MEDLINE

TI [Roentgenological changes after ultrasonic discectomy and osteoplasty of the intervertebral defect].

Rentgenologicheskie izmeneniia posle ul'trazvukovoi diskektomii i kostnoi plastiki mezhpozvonochnoho defekta.

AU Demichev N P; Dianov S V

SO ORTOPEDIIA TRAVMATOLOGIIA I PROTEZIROVANIE, (1982 Nov) (11) 21-5.

Journal code: OKY. ISSN: 0030-5987.

CY USSR  
 DT Journal; Article; (JOURNAL ARTICLE)  
 LA Russian  
 EM 8305  
 CT Check Tags: Animal; Human  
     Bone and Bones: TR, transplantation  
     Bone Regeneration  
     Bone Transplantation  
     Dogs  
     English Abstract  
     Follow-Up Studies  
     \*Intervertebral Disk: SU, surgery  
     Lumbar Vertebrae: RA, radiography  
     \*Lumbar Vertebrae: SU, surgery  
     \*Osteochondritis: SU, surgery  
     \*Spinal Fusion: MT, methods  
     \*Ultrasonics: IS, instrumentation

L54 ANSWER 39 OF 53 MEDLINE

AN 82182011 MEDLINE

TI [The use of ultrasonic bone fusion for filling in bone  
 defects. Animal studies. II. Concluding remarks].  
 Die Anwendung des Ultraschallknochenschweissens zum Auffüllen von  
 Knochenhöhlen. Tierexperimentelle Untersuchungen. II. Abschliessende  
 Bemerkungen.

AU Grasshoff H; Weickert H; Beckert M; Martinek I; Kuhne W; Kutschmann K

SO BEITRAGE ZUR ORTHOPADIE UND TRAUMATOLOGIE, (1982 Jan) 29 (1) 1-10.  
 Journal code: 9N4. ISSN: 0005-8149.

CY GERMANY, EAST: German Democratic Republic

DT Journal; Article; (JOURNAL ARTICLE)

LA German

EM 8208

CT Check Tags: Animal  
     \*Bone and Bones: TR, transplantation  
     Bone Diseases: PP, physiopathology  
     \*Bone Diseases: SU, surgery  
     Bone Regeneration  
     \*Bone Transplantation  
     \*Cyanoacrylates: TU, therapeutic use

Dogs

English Abstract

Rabbits

\*Ultrasonics

CN 0 (Cyanoacrylates)

L54 ANSWER 40 OF 53 MEDLINE

AN 82178140 MEDLINE

TI [Basic studies on ultrasonic surgery. I. Principles,  
 status and perspectives of ultrasonic surgery].  
 Grundlagenuntersuchungen zur Ultraschallchirurgie.

AU Wehner W; Muller T; Muller W; Neumann A  
 SO ZEITSCHRIFT FUR EXPERIMENTELLE CHIRURGIE, (1981 Dec) 14 (6) 357-64.  
 Journal code: XU0. ISSN: 0044-2704.  
 CY GERMANY, EAST: German Democratic Republic  
 DT Journal; Article; (JOURNAL ARTICLE)  
 LA German  
 FS Priority Journals  
 EM 8208  
 AB The ultrasonic power with regard to its medical use for resection, treatment, and joining of soft and hard biologic tissues is investigated after the formation of the ultrasonic diagnostics and therapy. The situation of the ultrasonic surgery as an unconventional method for the ingenious complementation of tested operative techniques is valued after the representation of the mode of operation and the present equipment. The trend of development and prospective problems of the research are deduced from them.

CT Check Tags: Human  
 Amputation Stumps  
 Bone and Bones: TR, transplantation  
**Bone Transplantation**  
 English Abstract  
 Fistula: SU, surgery  
 Fracture Fixation: MT, methods  
 Necrosis: SU, surgery  
 Osteomyelitis: SU, surgery  
**\*Ultrasonic Therapy**

L54 ANSWER 42 OF 53 MEDLINE  
 AN 80153276 MEDLINE  
 TI [Current state and prospectives of ultrasonic osteosynthesis surgery of accidental injuries].  
 Gegenwartiger Stand und Perspektive der Ultraschallosteosynthese in der Unfallchirurgie.

AU Muller T; Wehner W  
 SO BEITRAGE ZUR ORTHOPADIE UND TRAUMATOLOGIE, (1979 Oct) 26 (10) 570-6.  
 Journal code: 9N4. ISSN: 0005-8149.  
 CY GERMANY, EAST: German Democratic Republic  
 DT Journal; Article; (JOURNAL ARTICLE)  
 LA German  
 EM 8007  
 CT Check Tags: Human  
 Accidents  
**\*Bone and Bones: TR, transplantation**  
**\*Bone Cements: TU, therapeutic use**  
**\*Bone Transplantation**  
 Fracture Fixation: IS, instrumentation  
**\*Fracture Fixation: MT, methods**  
**\*Fractures: SU, surgery**  
**\*Ultrasonic Therapy**

L54 ANSWER 44 OF 53 MEDLINE

AN 78066067 MEDLINE

TI Experimental models for prevention of graft-versus-host reaction in bone marrow transfusion. II. Inability to prevent graft-versus-host reaction in an H-2 identical combination.

AU Nagino H; Nomoto K; Kuroiwa A; Miyazaki S; Goya N; Takeya K

SO INTERNATIONAL ARCHIVES OF ALLERGY AND APPLIED IMMUNOLOGY, (1978) 56 (1) 48-56.

Journal code: GP9. ISSN: 0020-5915.

CY Switzerland

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals

EM 7804

AB Splenomegaly was strong in the degree and continued for a long period of time in adult F1 hybrids between AKR (H-2k) and C3H/He (H-2k) mice after transfer of spleen cells from normal C3H/He mice. In spleen cells of such F1 recipients, cytotoxicity was detected by an in vivo neutralization test using methylcholanthrene-induced sarcoma or AKR origin as target cells. All of newborn F1 recipients died within 17 days after cell transfer. Induction of splenomegaly and cytotoxicity was not prevented by repeated pretreatments of donors with sonicated AKR spleen cells in saline, which suppressed completely such phenomena of graft-versus-host reaction in an H-2 nonidentical combination. Induction of cytotoxicity in the spleen of F1 recipients was not prevented by a pretreatment of donors with AKR spleen cells in complete Freund's adjuvant, which suppressed the induction of cytotoxicity in an H-2 nonidentical combination. Graft-versus-host reaction appears to be stronger in a combination between parental strains of which major histocompatibility antigens were identical.

CT Check Tags: Animal

\*Bone Marrow: TR, transplantation

\*Bone Marrow Transplantation

Crosses, Genetic

Cytotoxicity, Immunologic

\*Graft vs Host Reaction

\*Histocompatibility Antigens

Isoantibodies: AN, analysis

Mice

Mice, Inbred AKR

Mice, Inbred C3H

Mice, Inbred C57BL

Spleen: CY, cytology

Splenomegaly

Transplantation, Homologous

L54 ANSWER 46 OF 53 MEDLINE

AN 77121676 MEDLINE

TI Experimental models for prevention of graft-versus-host reaction in bone marrow transfusion. I. Selective suppression and augmentation



of splenomegaly and cytotoxicity.

AU Miyazaki S; Nomoto K; Kuroiwa A; Goya N; Takeya K  
 SO JAPANESE JOURNAL OF MICROBIOLOGY, (1976 Dec) 20 (6) 493-8.  
 Journal code: KMF. ISSN: 0021-5139.

CY Japan  
 DT Journal; Article; (JOURNAL ARTICLE)  
 LA English  
 FS Priority Journals  
 EM 7706  
 AB Induction and suppression of splenomegaly and cytotoxicity against C57BL/L cells were studied in (AKR X C57BL/6) F1 hybrid adult mice after the transfer of AKR lymphoid and bone marrow cells. 1) Splenomegaly and cytotoxicity were dissociated in the developmental stages of the graft-versus-host reaction. When lymphoid and bone marrow cells of normal AKR mice were injected into F1 recipients, splenomegaly was prominent on days 5 and 7, but cytotoxicity of spleen cells was not detected. Splenomegaly became less prominent but the cytotoxicity became detectable on day 14 after the injection. 2) Cytotoxic activity of spleen cells of F1 recipients was suppressed by the treatment of AKR donors with C57BL/6 lymphoid cells in Freund's complete adjuvant. Splenomegaly, however, was substantially enhanced by such a treatment of the donors. On the other hand, induction of the cytotoxic activity was facilitated by the treatment of donors with C57BL/6 skin grafts. 3) F1 hybrid mice could be protected from the graft-versus-host reaction by the injection of AKR anti-C57BL/6 serum or pretreatment of AKR donors with sonicated cellular antigens of C57BL/6.

CT Check Tags: Animal  
 \*Bone Marrow: CY, cytology  
 \*Bone Marrow: TR, transplantation  
 \*Bone Marrow Transplantation  
 Cytotoxicity Tests, Immunologic  
 \*Graft vs Host Reaction  
 Mice  
 Mice, Inbred AKR  
 Mice, Inbred C57BL  
 Spleen: IM, immunology  
 \*Splenomegaly: IM, immunology  
 Transplantation, Homologous

L54 ANSWER 47 OF 53 MEDLINE  
 AN 76105458 MEDLINE  
 TI [Osteosynthesis of fragments of the mandible by homologous grafting of sections and ultrasonic coagulation].  
 Nakostnaia fiksatsiia otlomoknizhnei cheliusti vreznyimi kortikal'nyimi gomotransplantatami i ul'trazvukovoi svarkoi.  
 AU Petrov V I; Bazhanov N N; Loschilov V I; Ter-Asaturov G P; Kuspangaliev M U  
 SO STOMATOLOGIJA, (1975 Sep-Oct) 54 (5) 29-34.  
 Journal code: VIM. ISSN: 0039-1735.  
 CY USSR

DT Journal; Article; (JOURNAL ARTICLE)  
 LA Russian  
 FS Dental Journals  
 EM 7605  
 CT Check Tags: Human  
   \*Bone and Bones: TR, transplantation  
   \*Bone Transplantation  
   \*Electrocoagulation  
     Electrocoagulation: MT, methods  
     English Abstract  
   \*Fracture Fixation, Internal: MT, methods  
   \*Mandibular Fractures: SU, surgery  
     Osteogenesis  
     Transplantation, Homologous  
   \*Ultrasonics

L54 ANSWER 49 OF 53 MEDLINE  
 AN 72159932 MEDLINE  
 TI Ultrasonics and physical properties of healing bone.  
 AU Abendschein W F; Hyatt G W  
 SO JOURNAL OF TRAUMA, (1972 Apr) 12(4):297-301.  
 Journal code: KAF. ISSN: 0022-5282.  
 CY United States  
 DT Journal; Article; (JOURNAL ARTICLE)  
 LA English  
 FS Abridged Index Medicus Journals; Priority Journals  
 EM 7208  
 CT Check Tags: Animal  
   \*Bone and Bones: TR, transplantation  
   \*Bone Transplantation  
     Densitometry  
     Elasticity  
     Femoral Fractures: RA, radiography  
     Femur: SU, surgery  
   \*Fractures  
     Fractures, Ununited: RA, radiography  
     Guinea Pigs  
     Pseudarthrosis: RA, radiography  
     Transplantation, Autologous  
     Transplantation, Homologous  
   \*Ultrasonics: DU, diagnostic use  
   \*Wound Healing

L54 ANSWER 50 OF 53 MEDLINE  
 AN 72029962 MEDLINE  
 TI [Joining of bones using ultrasonics].  
 Soedinenie kostei s pomoshch'iu ul'trasvuka.  
 AU Poliakov V A; Volkov M V  
 SO KHIRURGIYA, (1971) 47 (6) 10-4.  
 Journal code: KV3. ISSN: 0023-1207.  
 CY USSR

DT Journal; Article; (JOURNAL ARTICLE)

LA Russian

EM 7202

CT Check Tags: Human; Male

Adolescence

Adult

\*Bone and Bones: TR, transplantation

\*Bone Diseases: TH, therapy

\*Bone Neoplasms: TH, therapy

Bone Regeneration

\*Bone Transplantation

English Abstract

\*Fractures: TH, therapy

Giant Cell Tumors: TH, therapy

Methods

Middle Age

Osteotomy

Transplantation, Homologous

\*Ultrasonic Therapy

L54 ANSWER 52 OF 53 MEDLINE 08/646,519

AN 70201454 MEDLINE

TI [Ultrasonic osteosynthesis and reconstruction of bone tissue].

Ul'trazvukovoi osteosintez i vossozhdanie kostnoi tkani.

AU Poliakov V A

SO ORTOPEDIIA TRAVMATOLOGIIA I PROTEZIROVANIE, (1970 Mar) 31 (3) 34-7.

Journal code: OKY. ISSN: 0030-5987.

CY USSR

DT Journal; Article; (JOURNAL ARTICLE)

LA Russian

EM 7009

CT Check Tags: Animal

Bone and Bones: TR, transplantation

Bone Transplantation

English Abstract

\*Fracture Fixation

Methods

Rabbits

Time Factors

Transplantation, Homologous

\*Ultrasonic Therapy

Wound Healing